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QUESTION PAPER 2025

1. Vibration white finger refers to:
   (a) Buerger's disease
   (b) Raynaud's syndrome
   (c) Acrocyanosis
   (d) Takayasu disease

2. Which of the following are criteria for cancer screening?
   I. Screening test should be sensitive and specific
   II. Screening test should be acceptable to the screened population
   III. The disease should be an uncommon one for screening to be effective
   IV. Disease should be recognisable at an early stage
   Select the correct answer using the code given below:
   (a) I, II and III
   (b) I, II and IV
   (c) I, III and IV
   (d) II, III and IV

3. A 45-year-old lady presents with complaints of fatigue, muscle weakness along with bilateral multiple renal calculi which were picked up on a routine ultrasound. Further workup revealed serum calcium levels of 11.4 mg%. What is the next best investigation required to arrive at a diagnosis?
   (a) MRI neck
   (b) Sestamibi scan
   (c) CECT head and neck
   (d) NCCT head and neck

4. Which of the following are the aetiological factors associated with a communicating hydrocephalus?
   I. Post haemorrhagic
   II. Lesions within the ventricle
   III. CSF infection
   IV. Raised CSF protein
   Select the correct answer using the code given below:
   (a) I, II and III
   (b) I, II and IV
   (c) I, III and IV
   (d) II, III and IV

5. Which of the following statements are correct regarding a brain abscess?
   I. Abscesses arise when the brain is exposed directly as a result of fracture or infection of air sinus.
   II. Presenting features include low grade fever, confusion, seizures and focal deficits.
   III. MRI with contrast is the initial imaging modality of choice.
   IV. The aetological agents include bacteria, fungi, protozoa and viruses.
   Select the answer using the code given below:
   (a) I, II and III
   (b) I, II and IV
   (c) I, III and IV
   (d) II, III and IV

6. What is the most common type of tumour of Vermiform Appendix?
   (a) Epithelial tumour
   (b) Carcinoid tumour
   (c) Germ cell tumour
   (d) Papillary cell tumour

7. The earliest specific cystoscopic appearance of Bilharzial cystitis is:
   (a) Sandy patches
   (b) Ulcers
   (c) Pseudo tubercles
   (d) Nodules

8. Which one of the following best describes craniosynostosis?
   (a) It is delayed fusion of one or more cranial sutures preventing growth perpendicular to the suture.
   (b) It is the premature fusion of one or

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more cranial sutures, preventing growth perpendicular to the suture.
(c) It is the premature fusion of one or more cranial sutures, facilitating growth perpendicular to the suture.
(d) It is delayed fusion of one or more cranial sutures facilitating growth perpendicular to the suture.

9. A 60-year-old female presents with pain in her back of recent onset, which has become severe of late. During the course of investigations, she was found to have lytic lesions in the vertebrae and ribs. Which of the following organs should be carefully screened now for detecting the primary cause of these lesions?
(a) Small intestine
(b) Large intestine
(c) Adrenal
(d) Breast

10. Which of the following statements are correct regarding Cauda equine syndrome?
I. Its presenting symptoms are perineal numbness, painless urinary retention and fecal incontinence.
II. Urgent investigation with MRI is required.
III. It is present most commonly in the 45-60 year age group.
IV. Confirmed cases require early surgical decompression.
Select the answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

11. The commonest site of pressure sore is:
(a) Heel
(b) Sacrum
(c) Ischium
(d) Occiput

12. Resection of which part of intestine does not significantly affect fluid and electrolyte balance?
(a) Ileum
(b) Proximal jejunum
(c) Distal jejunum
(d) Colon

13. Good measure of systemic perfusion by ABG is by measurement of:
(a) Bicarbonate
(b) pH
(c) Lactate and/or the base deficit
(d) PCO_2

14. Which of the following are congenital abnormalities of the gall bladder?
I. The phrygian cap
II. Floating gall bladder
III. Absence of gall bladder
IV. Spigelian gall bladder
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

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15. Which of the following are functions of the gall bladder?
I. Reservoir for bile
II. Production of bile
III. Secretion of mucus
IV. Concentration of bile
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

16. Which one of following statements is correct regarding Budd-Chiari Syndrome (BCS)?
(a) It principally affects young males.
(b) Venous drainage of the liver is occluded by IVC thrombus.
(c) Quadrate lobe (Segment 4 and 5) undergoes hypertrophy.
(d) Abdominal discomfort and ascites are the main presenting features.

17. Which one of the following is correct regarding splenic artery aneurysm?
(a) It is twice as common in men.
(b) It is usually situated in the main arterial trunk.
(c) It is caused due to blunt trauma to the abdomen.
(d) It is generally multiple in number.

18. Which of the following statements are correct regarding primary survey/management of traumatic head injury patient?
I. Ensure adequate oxygenation and circulation
II. Exclude hypoglycaemia
III. Check for mechanism of injury
IV. Check pupil size and response
Select the answer using the code given below :
(a) I, II and III
(b) II, III and IV
(c) I, II and IV
(d) I, III and IV

19. Which of the following statements are correct regarding ABCDE of trauma care?
I. A stands for Airway with cervical spine protection
II. B stands for Breathing and ventilation
III. C stands for Control of massive external haemorrhage
IV. D stands for Disability (Neurological status)
Select the answer using the code given below :
(a) I, II and III
(b) I, III and IV
(c) II, III and IV
(d) I, II and IV

20. Which of the following statements are correct regarding Inguinal hernias in children?
I. It is more common in full-term boys.
II. It should be repaired promptly.
III. It is always indirect.
IV. It may frequently be transilluminant.
Select the answer using the code given below :
(a) I, II and III
(b) II, III and IV
(c) I, II and IV
(d) I, III and IV

21. The most common site of urethral opening in cases of hypospadias is:
(a) Just proximal to the glans
(b) On the penile shaft
(c) At the junction of penile shaft and stratum
(d) On the perineum

22. Which of the following about Minimal Access Surgery are correct?
I. Decreased intraoperative heat loss
II. Improved visualization
III. Increased chances of herniation
IV. Improved mobility
Select the answer using the code given below:
(a) I, II and III
(b) I, III and IV
(c) II, III and IV
(d) I, II and IV

23. The maximum safe dose for Lignocaine (without adrenaline) as a local anaesthetic drug is:
(a) 3 mg/kg
(b) 5 mg/kg
(c) 7 mg/kg
(d) 9 mg/kg

24. Which of the following are the symptoms commonly experienced by patients with lymphoedema?
I. Swelling
II. Burning sensation
III. Intolerance to cold
IV. Cramps
Select the correct answer using the code given below:
(a) I, II and IV
(b) I, II and III
(c) II, III and IV
(d) I, III and IV

25. Which of the following are the malignancies associated with lymphoedema?
I. Kaposi Sarcoma
II. Squamous cell carcinoma
III. Malignant melanoma

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IV. Leukaemia

Select the correct answer using the code given below:

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

26. Which of the following are the techniques commonly used to close the raw area after excision of a pilonidal sinus in order to avoid a midline wound?

I. Limberg procedure
II. Y-V plasty
III. Z-plasty
IV. Karydakis procedure

Select the correct answer using the code given below:

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

27. A 45-year-old lady presents with history of a painless lump in the right breast since 1 month. On examination, the lump is hard, 3 × 4 cm in size in the upper outer quadrant and is not fixed to the skin or the underlying structures. The axilla reveals firm mobile lymph nodes (level I). Rest of systemic examination is normal. The clinical stage of this disease is:

(a) $cT_1N_1M_x$
(b) $cT_2N_1M_x$
(c) $cT_3N_1M_x$
(d) $cT_3N_2M_x$

28. Which one of the following is considered the gold standard for the diagnosis of oesophageal motility disorders?

(a) Upper GI endoscopy
(b) Barium swallow
(c) High resolution manometry
(d) Contrast enhanced CT scan (CECT) oesophagus

29. Which of the following are considered aetiological factors for Adenocarcinoma oesophagus?

I. Barrett's oesophagus
II. Gastro-oesophageal reflux
III. Obesity
IV. Alcohol intake

Select the correct answer using the code given below:

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

30. Consider the following statements regarding Plummer-Vinson syndrome:

I. Findings include cervical oesophageal web, iron deficiency anaemia and dysphagia.
II. It is a rare disease, mainly affecting middle-aged women.
III. There is predisposition to postcricoid, cervical oesophageal cancer.
IV. Treatment is usually surgical.

Which of the statements given above are correct?

(a) II, III and IV
(b) I, II and IV
(c) I, III and IV
(d) I, II and III

31. Which of the following are correct regarding late dumping?

I. It usually occurs during the second hour after meal.
II. It lasts for 30-40 minutes.
III. Major symptoms are tremor, faintness, prostration
IV. It is relieved by lying down.

Select the answer using the code given below :

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

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32. Which one of the following statements is not correct regarding Gastric outlet obstruction associated with long standing peptic ulcer disease?
(a) Hypochloraemic alkalosis is the usual metabolic abnormality in such cases.
(b) Endoscopic biopsy is essential to exclude malignancy.
(c) Medical therapy has no role in the treatment of this condition.
(d) Operation is frequently required along with a drainage procedure.

33. The commonly used muscle relaxant with quickest onset of action and spontaneous recovery is:
(a) Suxamethonium
(b) Vecuronium
(c) Atracurium
(d) Rocuronium

34. The first imaging modality of choice for a 35-year-old lady, presenting to surgical emergency with complaints of colicky pain in right lower quadrant of abdomen and vomiting since last 2 days is:
(a) Contrast CT abdomen
(b) Non-contrast CT abdomen
(c) Ultrasound abdomen
(d) Plain X-ray abdomen erect view

35. Mallampati test is used for the assessment of:
(a) Tongue size
(b) Ability to protrude jaw
(c) Breath hold time
(d) Airway

36. Consider the following:
I. Diabetes
II. Hypertension
III. Renal failure
IV. Jaundice
Which of the above are the risk factors for post-operative wound dehiscence?
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

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37. If faced with a surgical emergency in a child of 15 years for whom no consent is available for life-saving surgery and no time for seeking authority from someone, the next step should be:
(a) Conservative management till lawyer is available
(b) Search for relatives or neighbours
(c) Consent arrangement through Hospital Social Worker
(d) Go ahead with surgery without consent

38. Which of the following information needs to be disclosed in order to establish valid consent for surgical treatment?
I. Condition and reasons why it warrants surgery
II. Type of surgery proposed
III. Unexpected hazards of proposed surgery
IV. The surgical experience and expertise of the operating surgeon
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

39. A surgical department of a premier medical college conducted a study on rates of post-operative wound infection. The results of the study were negative for the proposed hypothesis. What should the department do with the results?
(a) Label them as worthless
(b) Redo the study with a new hypothesis
(c) Report the negative results
(d) Redesign the study and increase the sample size

40. Which of the following statements are correct regarding sutures in surgery?
I. Barbed sutures have the advantage of eliminating the need for knots.
II. Vertical mattress sutures help in eversion of wound edges.
III. Aberdeen knot is used for continuous suturing.

IV. Silk is preferred for subcuticular suturing.
Select the answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

41. Chadwick's sign describes :
(a) the dusky hue of the vestibule and anterior vaginal wall visible at about 8th week of pregnancy
(b) softening of cervix at 6th week of pregnancy
(c) the abdominal and vaginal fingers apposed below the body of the uterus during bimanual examination
(d) regular and rhythmic uterine contraction which can be elicited during bimanual examination at 4-8 weeks of pregnancy

42. Which of the following treatments are recommended for a pregnant woman suffering from sickle cell disease?
I. Folic acid 1 mg daily
II. Azathioprine
III. Penicillin prophylaxis
IV. Thromboprophylaxis with low molecular weight heparin
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

43. Which of the following are contraindications to External Cephalic Version (ECV) in breech ?
I. Pregnancy less than 36 weeks
II. Multiple pregnancy
III. Previous cesarean delivery
IV. Rhesus isoimmunization
Select the correct answer using the code given below:
(a) I, III and IV
(b) II, III and IV
(c) I, II and IV
(d) I, II and III

44. Which of the following hematological findings are seen in pregnant women with thalassemia trait?
(a) Raised HbA_2 and low MCV
(b) Low MCHC
(c) Low serum total iron binding capacity
(d) Low HbA_2 and raised MCV

45. The best drug for maintenance therapy of Systemic Lupus Erythematosus (SLE) during pregnancy is:
(a) Hydroxychloroquine
(b) Sulfasalazine
(c) Tacrolimus
(d) Progestins

46. Which of the following maternal complications can be seen in hyperemesis gravidarum?
I. Wernicke's encephalopathy
II. Hepatic failure
III. Hypoprothrombinemia
IV. Convulsions
Select the correct answer using the code given below:
(a) I, II, III and IV
(b) I, III and IV only
(c) I, II and IV only
(d) II and III only

47. The commonest ovarian tumour seen during pregnancy is:
(a) Benign cystic teratoma
(b) Mucinous cystadenoma
(c) Endometrioma
(d) Adenocarcinoma ovary

48. Which of the following statements are correct regarding shoulder dystocia ?
I. It can be predicted during early labour.
II. Anencephaly is a risk factor.
III. Turtle neck sign is present.
IV. Episiotomy should always be given.
Select the answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

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49. A primigravida at 38 weeks pregnancy was put on oxytocin drip in view of slow labour at the rate of 30 mIU/min by the newly appointed registrar. She complains of confusion and starts throwing fits. What electrolyte imbalance is expected to have happened in this case?
(a) Hypokalemia
(b) Hyponatremia
(c) Hypocalcemia
(d) Hypernatremia

50. Which of the following factors favour posterior position of the vertex?
I. Anthropoid pelvis
II. Low inclination pelvis
III. Attachment of placenta on the anterior wall
IV. Primary brachycephaly
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

51. Which of the following factors are associated with cord prolapse during labour?
I. Malpresentations
II. Contracted pelvis
III. Stabilizing induction
IV. Prematurity
Select the correct answer using the code given below:
(a) I, II, III and IV
(b) I, II and IV only
(c) I, II and III only
(d) III and IV only

52. Detection of magnesium toxicity in a patient receiving magnesium sulphate is noticed by which of the following?
I. Loss of tendon reflexes
II. Increased respiratory rate
III. Chest pain, heart block
IV. Cardiac arrest
Select the correct answer using the code given below:
(a) I, III and IV
(b) II and IV only
(c) I and III only
(d) III and IV only

53. Which one of the following is correct regarding postpartum psychosis ?
(a) There is often no family history of psychosis.
(b) Its onset is usually within 4 days of delivery.
(c) Recurrence rate in subsequent pregnancy is 60-70%.
(d) Electro convulsive therapy is the first treatment of choice.

54. Which of the following are correct in the treatment of cracked nipple ?
I. Correct attachment (Latch on) will provide immediate relief from pain and rapid healing.
II. If pain, mother should use breast pump and the infant is fed with the expressed milk.
III. Miconazole lotion is applied over the nipple as well as in the baby's mouth if there is oral thrush.
Select the answer using the code given below:
(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

55. Which of the following are correct regarding puerperal blues?
I. Its incidence is around 50%.
II. There is no specific metabolic or endocrine derangement.
III. Treatment is reassurance and psychological support.
Select the answer using the code given below:
(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

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56. The Matthews Duncan process has been described for:
(a) marginal separation of placenta in normal labour
(b) central separation of placenta in normal labour
(c) controlled contraction in active management of third stage of labour
(d) reposition of acute inversion of uterus following vaginal delivery

57. A PILI lady after 4 hours of delivery is suffering from persistent, severe pain in the perineal region, rectal tenesmus, bearing down feeling and retention of urine. The probable diagnosis is:
(a) Cervical tear
(b) Vulval hematoma
(c) Supralevator hematoma
(d) Complete perineal tear

58. According to WHO Intrapartum Care Guidelines 2018, which one of the following is correct about duration of first stage labour?
(a) Duration of latent phase of primigravida has not been established
(b) Duration of active stage of multigravida should not exceed 6 hours
(c) Duration of active stage of primigravida should not exceed 8 hours
(d) Duration of active stage of primigravida should not exceed 18 hours

59. According to WHO Intrapartum Care Guidelines 2018, which of the following are correct about birthing position?
I. For a woman without epidural analgesia, adoption of birthing position is individual woman's choice.
II. For a woman without epidural analgesia, upright birthing position may be adopted.
III. For a woman with epidural analgesia, lithotomy and supine position only are recommended.
Select the answer using the code given below:
(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

60. Twin pregnancy should have ultrasound at 10-13 weeks to confirm which of the following?
I. Number of foetus
II. Viability of foetus
III. Chorionicity of twins
IV. Malformation in either foetus
Select the correct answer using the code given below:
(a) I, II and III only
(b) I and III only
(c) II and IV only
(d) I, II, III and IV

61. Which of the following are neonatal complications of maternal diabetes during pregnancy?
I. Hyperbilirubinemia
II. Hypercalcemia
III. Cardiomyopathy
IV. Hypoglycemia
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

62. Which of the following are the predictive factors for Fetal Growth Restriction (FGR)?
I. Low level of maternal 1st trimester Beta hCG
II. Abnormal uterine artery Doppler at 20-24 weeks of pregnancy
III. Fetal echogenic bowel on ultrasound
IV. Maternal medical disorder
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

63. Which of the following is the primary surveillance tool in the Growth Restricted Fetus?
(a) Uterine artery doppler

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(b) Umbilical venous pulsation
(c) Middle cerebral artery doppler
(d) Umbilical artery doppler

64. Glands of Cloquet are:
(a) lymphatic drainage of vulva
(b) lymphatic drainage of cervix
(c) lymphatic drainage of uterus
(d) lubricating glands of vagina

65. Causes of AUB are subdivided by the acronym PALM-COEIN. What are the characteristics of PALM causes?
I. Structural lesions
II. Diagnosed by ultrasound
III. Confirmed by histopathology
Select the correct answer using the code given below:
(a) I and II only
(b) I and III only
(c) I, II and III
(d) II and III only

66. Daily suppressive therapy for HSV-1 and HSV-2 is:
(a) Valacyclovir 1 g once daily
(b) Acyclovir 400 mg once daily
(c) Acyclovir 400 mg thrice daily
(d) Valacyclovir 1 g twice daily

67. Which of the following are the primary organisms involved in PID?
I. N. gonorrhoeae
II. Chlamydia
III. Mycoplasma hominis
IV. Candida albicans
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

68. What are the characteristics of dermoid cyst?
I. Germ cell ovarian tumour
II. Bilateral in 15-20% cases
III. Torsion is common
IV. Rupture is common
Select the correct answer using the code given below:
(a) I and III only
(b) II and IV only
(c) II, III and IV
(d) I, II and III

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69. Which one of the following is not a differential diagnosis of chronic inversion of uterus?
(a) Fibroid polyp
(b) Fungating cervical malignancy
(c) Cervical prolapse
(d) Gartner's cyst

70. A 28-year-old P_2L_2 presents to Gynaecology OPD with complaints of malodorous vaginal discharge. On examination, the discharge was found to be grayish-white in colour and adherent to vaginal walls. Which one of the following is a bedside diagnostic criterion for the causative organism?
(a) Presence of RBCs in vaginal smear
(b) Vaginal pH < 4.5
(c) Positive 10% potassium hydroxide test
(d) Positive NAAT test

71. Which of the following statements about hysterosalpingography, as an operative procedure, are correct?
I. Tubal patency assessment following tuboplasty operation
II. Diagnosis of uterine synechiae
III. Detection of IUD
IV. Diagnosis of subserosal fibroid
Select the answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

72. Which of the following are indications of endometrial sampling?
I. Endometrial tuberculosis
II. Endometrial polyp
III. Postmenopausal bleeding

IV. Abnormal uterine bleeding

Select the correct answer using the code given below:

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

73. A 30-year-old P_3L_3 female presents in Gynaecology emergency with acute abdominal pain and vaginal bleeding of short duration (1 hour). She gives history of tubal ligation after birth of third child. On examination, right adnexal tenderness was found and os was closed. What is the probable diagnosis?

(a) Ectopic pregnancy
(b) Pelvic inflammatory disease
(c) Appendicitis
(d) Complete abortion

74. Which of the following statements are correct regarding audit in Obstetrics and Gynaecology?

I. It can replace the out of date clinical practices with better ones.
II. It is an efficient educational tool.
III. It should be based on scientific evidences with facts and figures.
IV. It is not labour-intensive.

Select the answer using the code given below

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

75. Which of the following are poor prognostic factors in endometrial adenocarcinoma?

I. Estrogen and progesterone receptor positivity
II. HER-2/neu gene expression
III. Histologic types papillary serous or clear cell carcinoma
IV. Aneuploid tumours

Select the correct answer using the code given below:

(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

76. For which of the following conditions, surgery is indicated in a case of Fibroid Uterus?

I. Symptomatic and failed medical management
II. Size > 12 weeks
III. Pedunculated fibroid

Select the correct answer using the code given below

(a) I, II and III
(b) I and II only
(c) II and III only
(d) I and III only

77. Which of the following is measured without any straining while examination under POP-Q system?

(a) TVL
(b) Pb
(c) GH
(d) Point D

78. Which of the following are criteria for opting Le Fort's operation for surgical correction of pelvic organ prolapse ?

I. Procidentia in old age
II. Unfit for long duration surgery
III. Associated uterine pathology
IV. Coital function no longer required

Select the correct answer using the code given below:

(a) I, III and IV
(b) I and II only
(c) II, III and IV
(d) I, II and IV

79. Opening of Bartholin's duct is in the:

(a) vestibule outside the hymen at the junction of the anterior $2/3^{rd}$ and posterior $1/3^{rd}$ in the groove between the hymen and labium minus
(b) groove between labia majora and labia minora
(c) superficial perineal pouch at the junction of anterior $1/3^{rd}$ and post $1/3^{rd}$
(d) periurethral region in anterior $1/3^{rd}$ of labia minora

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80. Which of the following are Amsel's diagnostic criteria?
I. Vaginal pH > 4.5
II. Positive Whiff test
III. Presence of clue cells > 20%
IV. Positive bacterial vaginal culture
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

81. Which of the following indicators are considered for computing "Physical Quality of Life Index" (PQLI)?
I. Infant mortality
II. Life expectancy at age one
III. Literacy
IV. Per capita income
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

82. Which one of the following terms is an "all-or-none phenomenon" and is best described as termination of all transmission of infection by extermination of the infectious agent?
(a) Disease control
(b) Disease elimination
(c) Disease eradication
(d) Disease surveillance

83. "Objectives are set forth for different units and subunits, each of which prepares its own plan of action, usually on a short-term basis." The definition best sums up which one among the following terms ?
(a) Input-Output analysis
(b) Personnel management
(c) Management by objectives
(d) Work sampling

84. The Panchayati Raj is a three-tier structure of rural local self-government in India with the three levels being village, block and district. Consider the following bodies:
I. Gram Sabha
II. Gram Panchayat
III. Nyaya Panchayat
IV. Panchayat Samiti
Which of the above bodies are present at the village level?
(a) I and II only
(b) III and IV only
(c) I, II and III
(d) II, III and IV

85. Many patients with unexplained rash and fever were reported from a village close to the Primary Health Centre (PHC). What is the first step in initiating the investigation of such an epidemic?
(a) Rapid search for all cases
(b) Verification of diagnosis
(c) Confirm existence of epidemic
(d) Defining the population at risk

86. John Snow's discovery that cholera is a waterborne disease was the outcome of which type of study?
(a) Uncontrolled trial
(b) Natural experiment
(c) Risk factor trial
(d) Trial of aetiological agent

87. Given below is a table showing diagnosis of Myocardial infarction by ECG:

ECG results	**Myocardial infarction Present**	**Myocardial infarction Absent**
Positive	45	8,000
Negative	5	32,000
Total	50	40,000

Consider the following statements:
I. Sensitivity is 90%.
II. Specificity is 80%.
Which of the statements given above is/are correct?
(a) I only
(b) II only

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(c) Both I and II
(d) Neither I nor II

88. Data obtained from hospital records is not a representative sample of the population. What are the reasons for this?
I. Mild cases and subclinical cases may be missed.
II. Population served by a hospital usually cannot be defined.
III. Cost of hospital care is not recorded.
IV. Admission policy for cases can vary from hospital to hospital.
Select the correct answer using the code given below:
(a) I and II only
(b) II and III only
(c) I, II and IV
(d) II, III and IV

89. Of the following ocular manifestations of Vitamin A deficiency, the first sign that can be clinically seen is:
(a) Bitot's spots
(b) Nyctalopia
(c) Conjunctival Xerosis
(d) Corneal Xerosis

90. The bony deformity of 'pigeon chest' in children occurs due to deficiency of:
(a) Vitamin A
(b) Vitamin D
(c) Vitamin E
(d) Vitamin K

91. Which one among the following essential amino acids is usually the "limiting" amino acid in most of the pulses ?
(a) Lysine
(b) Methionine
(c) Threonine
(d) Valine

92. Which among the following are defence mechanisms adopted when an individual is faced with problems or failures?
I. Rationalization
II. Regression
III. Projection
IV. Replacement
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

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93. What are the reasons for choosing coliform organisms as indicators of faecal pollution of water rather than the waterborne pathogens directly?
I. They are present in great abundance in the human intestine and excreted in great numbers in faeces.
II. They have lower resistance to forces of natural purification.
III. They survive lesser than the pathogens.
IV. They are easily detected by culture methods.
Select the correct answer using the code given below:
(a) I and IV
(b) II and III
(c) I only
(d) IV only

94. The Ministry of Health and Family Welfare has launched a programme to meet the challenge of high prevalence of anaemia amongst adolescent boys and girls. Consider the following statements in relation to the key interventions being undertaken:
I. It entails supervised weekly administration of 100 mg elemental iron and 500 μg folic acid.
II. These weekly iron-folic acid supplements are administered by using a fixed day approach.
III. It entails supervised administration of Albendazole 400 mg every three months for control of helminth infestation.
Which of the statements given above is/are

correct?
(a) I only
(b) II only
(c) I and III
(d) I and II

95. The National Framework for Malaria Elimination in India (2016-2030) has defined certain milestones and targets. Among the following, which is the specific target that has to be met by the year 2027?
(a) All states and UTs must reduce API to less than 1 case per 1000 population at risk.
(b) All states and UTs must establish fully functional malaria surveillance to track, investigate and respond to each case.
(c) Entire country is to have no indigenous cases and no deaths due to malaria.
(d) Entire country has to initiate the process for certification of malaria elimination.

96. Under the Pradhan Mantri Surakshit Matritva Abhiyan, the beneficiaries are being provided with a minimum package of antenatal care including certain investigations and drugs on a fixed day of every month. Which day of the month is specified for this purpose?
(a) 1^{st} day of the month
(b) 7^{th} day of the month
(c) 9^{th} day of the month
(d) 15^{th} day of the month

97. "Small for Date" (SFD) babies, also known as "small for gestational age" babies, weigh less than what percentile for the gestational age?
(a) 2^{nd} percentile
(b) 5^{th} percentile
(c) 10^{th} percentile
(d) 20^{th} percentile

98. In the most widespread calculation of Stillbirth Rate, the numerator is defined as foetal deaths weighing over 'X' gram at birth, during the year. Which one of the following is the correct value for 'X'?
(a) 500
(b) 750
(c) 1000
(d) 1500

99. While performing triage in response to a disaster emergency, commonly an internationally accepted four-colour code system is used. Which one among the following four-colour categories represents the highest priority for emergency response ?
(a) Black
(b) Green
(c) Red
(d) Yellow

100. Consider the following statements with regard to Ice-Lined Refrigerator (ILR) employed for storing vaccines at the sub-district level:
I. These types of refrigerators are top-opening.
II. Based on the temperature zone, the inside of ILRs can be divided into 3 parts.
III. The upper part of ILR is cooler compared to the lower part.
IV. Vaccines should never be kept directly on the floor of the ILR as they can get damaged.
Which of the statements given above are correct?
(a) I and II
(b) II and III
(c) III and IV
(d) I and IV

101. Which one of the following is the major contributor to the total energy intake, in terms of energy provided, in an average Indian diet?
(a) Fats
(b) Carbohydrates
(c) Proteins
(d) Vitamins

102. Consider the following with regard to Amino Acids:
I. Essential Amino Acids are those that the body cannot synthesize and they must be obtained from dietary proteins.
II. Not just the Essential Amino Acids, Non-essential Amino Acids are also needed by

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the body for synthesis of tissue proteins.
III. Unless a protein contains all the Essential Amino Acids in amounts corresponding to human needs, a protein is said to be biologically incomplete.
IV. Animal proteins are rated superior to vegetable proteins.

Of the above statements, how many are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

103. Which of the following strategies were encouraged by the UNICEF under its 'GOBI Campaign'?
I. G for growth charts to better monitor child development
II. O for oral rehydration to treat all mild and moderate dehydration
III. B for better and continuous evaluation of children up to 5 years of age
IV. I for immunization against measles, diphtheria, polio, pertussis, tetanus and tuberculosis

Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) I, III and IV
(d) II, III and IV

104. What is the limit of daily exposure of noise that people can tolerate without substantial damage to their hearing ?
(a) 65 dB
(b) 85 dB
(c) 105 dB
(d) 125 dB

105. How much illumination is recommended by the Illuminating Engineering Society for the general office work?
(a) 100 lux
(b) 200 lux
(c) 400 lux
(d) 900 lux

106. Dietary fibres have:
(a) anabolic effect
(b) catabolic effect
(c) no metabolic effect
(d) sometimes anabolic and sometimes catabolic effect, depending on the type

107. Egg proteins are considered to be the best among food proteins because :
I. of their biological value
II. of their digestibility
III. they contain all the essential amino acids
IV. their calorie content is higher than in proteins of vegetable sources

Which of the statements given above is/are correct?
(a) I only
(b) I, II and III
(c) II, III and IV
(d) I, III and IV

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108. On a chest radiograph, which of the following occupational diseases is most likely to be mistaken as a case of tuberculosis of lungs ?
(a) Anthracosis
(b) Silicosis
(c) Siderosis
(d) Byssinosis

109. With which variety of asbestos, Mesothelioma has been shown to have a strong association?
(a) Amosite
(b) Anthrophyllite
(c) Crocidolite
(d) Chrysolite

110. Under the Biomedical Waste Management Rules 2016, human anatomical waste is to be carried in which colour plastic bags?
(a) Yellow
(b) Red
(c) Blue
(d) Black

111. As an index of thermal comfort, the 'Corrected Effective Temperature' is considered to be an improvement over 'Effective Temperature'. It deals with which of the following factors?
I. Air velocity
II. Humidity
III. Mean radiant heat
IV. Sweat rate
Select the correct answer using the code given below:
(a) I, III and IV
(b) II, III and IV
(c) I, II and III
(d) I and II only

112. In a child who has not received any dose of DPT and OPV immunization, up to what age can these vaccines be given under the Universal Immunization Programme?
(a) DPT up to 7 years of age and OPV up to 5 years of age
(b) DPT up to 8 years of age and OPV up to 6 years of age
(c) DPT up to 10 years of age and OPV up to 7 years of age
(d) DPT up to 12 years of age and OPV up to 10 years of age

113. A traveller who has passed through a yellow fever endemic zone and does not possess a Certificate of Vaccination against yellow fever, enters a yellow fever 'receptive' area. For how long from the date of leaving the infected area must this traveller be placed on quarantine in a mosquito-proof ward?
(a) 6 days
(b) 7 days
(c) 8 days
(d) 10 days

114. Under the Employees' State Insurance Act 1948, if the sickness of an insured person is duly certified by an Insurance Medical Officer, periodical cash payment benefit is payable for a maximum period of how many days in any continuous period of 365 days, as Sickness Benefit?
(a) 30 days
(b) 61 days
(c) 91 days
(d) 121 days

115. Consider the following statements regarding Wernicke's encephalopathy:
I. It is caused by niacin deficiency.
II. It is often seen in alcoholics.
III. Ophthalmoplegia, polyneuritis and ataxia are some of its characteristic features.
IV. It occurs occasionally in people who fast.
Which of the statements given above are correct?
(a) I, II and III
(b) II, III and IV
(c) I, III and IV
(d) I, II and IV

116. A housefly transmits any infectious agent by which of the following methods, most commonly?
(a) Propagative transmission
(b) Mechanical transmission
(c) Cyclo-propagative transmission
(d) Cyclo-developmental transmission

117. In the case of a 7-year-old school-going child, which would be the most appropriate indicator to measure the current nutritional status?
(a) Birth weight
(b) Mid upper arm circumference
(c) Head circumference
(d) Weight for height

118. Consider the following statements with regard to Home Based Newborn Care (HBNC):
I. Early detection and special care of pre-term newborns is one of the major objectives of HBNC.
II. ANM is the main person involved in the delivery of HBNC.
III. Supporting the family for adoption of healthy practices helps achieve the key objectives of HBNC.
IV. The primary aim of HBNC is to improve newborn survival.
Which of the statements given above are correct?
(a) I and II only

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(b) II and III only
(c) I, III and IV only
(d) I, II, III and IV

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119. Which of the following conditions are transmitted as a recessive, sex-linked trait ?
I. Retinitis pigmentosa
II. Colour blindness
III. Cystic fibrosis
IV. Duchenne muscular dystrophy
Select the correct answer using the code given below:
(a) I, II and III
(b) I, II and IV
(c) II, III and IV
(d) I, III and IV

120. Under which name (brand) does the National AIDS Control Organisation provide the STI/RTI services?
(a) Antara Clinic
(b) Chhaya Clinic
(c) Sathi Clinic
(d) Suraksha Clinic

END

PAPER 2025 ANSWERS

1. (b) Raynaud's syndrome

Vibration white finger (VWF) is a form of secondary Raynaud's phenomenon, which is also known as Raynaud's syndrome. It is an occupational disease caused by the prolonged use of vibrating hand-held tools, such as jackhammers, chainsaws, or pneumatic drills. The constant vibration is believed to cause micro-trauma to the peripheral blood vessels and nerves in the fingers. This damage leads to vasospasm, especially upon exposure to cold. The classic symptoms mirror Raynaud's: episodic blanching (whiteness) of the fingers, followed by cyanosis (blueness) due to deoxygenation, and then reactive hyperemia (redness) as blood flow returns, often accompanied by pain and numbness. Buerger's disease (a) is an inflammatory vasculitis linked to smoking, not vibration. Acrocyanosis (c) is a persistent, painless, and symmetrical cyanosis of the distal extremities, which is not episodic like VWF. Takayasu disease (d) is a large-vessel vasculitis affecting the aorta and its main branches.

2. (b) I, II and IV

The correct answer includes criteria I, II, and IV. These are based on the widely accepted Wilson-Jungner criteria for screening. For a screening program to be effective, the test must be sensitive (correctly identifying those with the disease) and specific (correctly identifying those without the disease) (I). A test with poor sensitivity will miss cases, while one with poor specificity will lead to many false positives, unnecessary anxiety, and further testing. The test must also be acceptable to the population (II); if it is painful, invasive, embarrassing, or expensive, people will not participate. The disease must have a recognizable early or asymptomatic stage (IV) during which detection and intervention can lead to a better outcome than treatment at the usual symptomatic stage. Statement (III) is incorrect. For a screening program to be justifiable and cost-effective on a population level, the disease should be a common and important public health problem, not an uncommon one. Screening for very rare diseases is generally not feasible.

3. (b) Sestamibi scan

The patient's clinical picture of fatigue, muscle weakness ("moans"), renal calculi ("stones"), and persistent hypercalcemia (11.4 mg%) is classic for primary hyperparathyroidism (PHPT). This is most commonly (80-85%) caused by a single, autonomously functioning parathyroid adenoma. After confirming the diagnosis biochemically (which would also involve checking an intact PTH level, expected to be high or inappropriately normal), the next step is pre-operative localization of the overactive gland. The Sestamibi scan (Technetium-99m sestamibi scintigraphy) is the most widely used and effective non-invasive localization study. This nuclear medicine scan relies on the differential uptake and washout of the radiotracer in hyperactive parathyroid tissue versus the thyroid gland. An ultrasound of the neck is often used as a complementary, and sometimes primary, imaging tool, but Sestamibi is superior for detecting ectopic glands. MRI (a) and CT scans (c, d) are not first-line investigations for localizing parathyroid adenomas and are typically reserved for complex or re-operative cases.

4. (c) I, III and IV

The correct answer includes factors I, III, and IV. Communicating hydrocephalus is a condition where cerebrospinal fluid (CSF) flows freely within the ventricular system but is not adequately absorbed into the venous sinuses via the arachnoid granulations. This impairment of absorption is the key pathology. Post-haemorrhagic (I) causes, such as subarachnoid hemorrhage, lead to blood products clogging and causing fibrosis of the arachnoid granulations, thus blocking CSF reabsorption. CSF infection (III), like bacterial or tuberculous

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meningitis, causes inflammation and exudates that similarly obstruct the arachnoid villi. Raised CSF protein (IV), seen in conditions like Guillain-Barré syndrome or with spinal tumors, can also physically impede the absorption process at the granulations. In contrast, lesions within the ventricle (II), such as a colloid cyst blocking the foramen of Monro or aqueductal stenosis, would cause a non-communicating (obstructive) hydrocephalus by blocking CSF flow within the ventricular system itself, which is a different pathophysiology.

5. (a) I, II and III

This question asks for the correct statements regarding a brain abscess. Statement (I) is correct; brain abscesses can form from direct extension from adjacent infections (e.g., otitis media, mastoiditis, sinusitis) or from direct inoculation via penetrating trauma or a compound skull fracture. Statement (II) is also correct. While the classic triad of fever, headache, and focal neurological deficits is not always present, the presentation is often subacute with low-grade fever, confusion, seizures, and focal deficits corresponding to the abscess's location. Statement (III) is correct. MRI with gadolinium contrast is the gold standard and the imaging modality of choice, characteristically showing a ring-enhancing lesion with central necrosis and surrounding vasogenic edema. Statement (IV) is incorrect. While bacteria, fungi (e.g., Aspergillus in the immunocompromised), and protozoa (e.g., Toxoplasma gondii in AIDS patients) are well-established causes, viruses are not a cause of brain abscesses. Viruses typically cause encephalitis or meningitis, which are diffuse inflammatory processes, not encapsulated purulent collections.

6. (b) Carcinoid tumour

The most common tumor of the vermiform appendix is the carcinoid tumour (b), which is now more precisely classified as a well-differentiated neuroendocrine tumor (NET). These tumors account for the majority of all appendiceal neoplasms and are frequently discovered incidentally during an appendectomy performed for suspected appendicitis. They arise from the subepithelial neuroendocrine (Kulchitsky) cells located within the crypts. Most appendiceal NETs are small (typically <1 cm), located at the tip, and follow a benign course. The risk of metastasis increases with size (>2 cm), mesoappendiceal invasion, or lymph node involvement. Epithelial tumours (a), such as mucinous cystadenoma and adenocarcinoma, are the second most common group but are significantly rarer than carcinoids. Mucinous adenocarcinomas are noteworthy as they can lead to pseudomyxoma peritonei if they rupture. Germ cell tumours (c) (e.g., teratoma) and papillary cell tumours (d) (a subtype of epithelial tumor) are exceptionally rare in the appendix.

7. (c) Pseudo tubercles

Bilharzial cystitis, caused by the deposition of Schistosoma haematobium ova in the bladder wall, has a characteristic progression of findings on cystoscopy. The earliest specific lesions are "pseudo tubercles" (c). These appear as small (1-2 mm), slightly raised, greyish-yellow lesions in the mucosa, often surrounded by a small ring of hyperemia. Each pseudo tubercle represents a submucosal granuloma that has formed around a collection of schistosoma ova. As the disease progresses, these individual tubercles can merge to form larger nodules (d). "Sandy patches" (a) are a later, chronic finding; they are yellowish, rough, and lusterless patches of mucosa where large numbers of calcified ova are present in the submucosa, giving a "ground-glass" or sandy appearance. Ulcers (b) are also a feature of more advanced, active disease, not the earliest sign. Therefore, the pseudo tubercles are the first specific sign.

8. (b) It is the premature fusion of one or more cranial sutures, preventing growth perpendicular to the suture.

Craniosynostosis is a congenital defect defined by the premature fusion of one or more of the cranial sutures. Normally, these sutures remain open in infancy to allow the skull to expand with the rapidly growing brain. The pathophysiology follows Virchow's law: when a suture fuses prematurely, bone growth is prevented (or restricted) in the direction perpendicular to that fused suture line. To compensate for this restriction and accommodate brain growth, the

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skull expands in a direction parallel to the fused suture. This results in a characteristic abnormal head shape. For example, premature fusion of the sagittal suture prevents side-to-side (perpendicular) growth, leading to compensatory front-to-back (parallel) growth, resulting in a long, narrow head (scaphocephaly). Options (a) and (d) are incorrect because the fusion is premature, not delayed. Option (c) is incorrect because growth perpendicular to the suture is prevented, not facilitated.

9. (d) Breast

The patient's presentation of severe back pain with lytic (bone-destroying) lesions in the axial skeleton (vertebrae and ribs) is highly suspicious for metastatic carcinoma. In a 60-year-old female, the most common primary malignancy to metastasize to bone is breast cancer (d). Breast cancer frequently spreads to bone, and the metastases are most often lytic or mixed lytic/blastic. Other common primary cancers that cause lytic bone metastases include lung, kidney (renal cell carcinoma), and thyroid. While large intestine (b) (colorectal) cancer can metastasize to bone, it is less common than breast or lung cancer, and it typically metastasizes to the liver and lungs first. Metastases from the small intestine (a) and adrenal (c) glands to bone are significantly rarer. Therefore, given the patient's demographic and the lytic nature of the lesions, a primary breast malignancy is the most likely source and should be screened for immediately.

10. (b) I, II and IV

The correct answer includes statements I, II, and IV. Cauda Equina Syndrome (CES) is a neurosurgical emergency resulting from compression of the lumbosacral nerve roots. Statement (I) is correct; the classic "red flag" symptoms include bilateral sciatica, severe low back pain, motor weakness in the lower extremities, and the hallmark saddle (perineal) anesthesia (numbness) along with profound sphincter disturbance, which manifests as painless urinary retention (leading to overflow incontinence) and fecal incontinence due to loss of anal sphincter tone. Statement (II) is correct; suspected CES requires urgent investigation with an MRI of the entire lumbosacral spine to confirm the diagnosis, identify the cause (e.g., massive disc herniation, tumor, abscess), and plan for surgery. Statement (IV) is also correct; confirmed CES is a surgical emergency, and early surgical decompression (ideally within 24-48 hours) is required to maximize the chances of recovering neurological, bladder, and bowel function. Statement (III) is incorrect; while it can occur at any age, the peak incidence for CES caused by disc herniation (the most common cause) is in the 30-50 age group.

11. (b) Sacrum

The most common site for a pressure sore (also known as a pressure ulcer or decubitus ulcer) is the sacrum. Pressure sores develop over bony prominences where sustained pressure, often combined with shear and friction, cuts off the microcirculation to the skin and underlying tissues, leading to ischemic necrosis. The location of these sores is highly dependent on patient positioning. For patients who are bedridden and spend most of their time in a supine (lying on their back) or semi-Fowler's position, the sacrum is the area subjected to the most intense and prolonged pressure. The heels (a) are the second most common site. The ischium (c) (or ischial tuberosities) is a common site for patients who are wheelchair-bound and sit for long periods. The occiput (d) (back of the head) is a more common site in children or patients with limited head mobility.

12. (c) Distal jejunum

The distal jejunum plays a relatively minor role in the overall absorption of fluids and electrolytes compared to other intestinal segments. The small intestine (especially the duodenum and proximal jejunum) is primarily responsible for the absorption of most nutrients, electrolytes, and a large proportion of water. The ileum, although less active in nutrient absorption, has specialized roles in absorbing vitamin B_{12} and bile salts, both critical for fat digestion and erythropoiesis. The colon, meanwhile, is essential for reabsorbing water and sodium and secreting potassium and bicarbonate; thus, its loss leads to severe dehydration and electrolyte disturbances.

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When the distal jejunum is resected, compensatory mechanisms in the ileum can largely take over fluid and electrolyte absorption, minimizing long-term metabolic derangement. Conversely, resection of the ileum or colon can cause bile salt malabsorption, steatorrhea, and chronic diarrhea, leading to fluid and electrolyte imbalance. Mnemonic: "Jejunum adjusts, ileum indispensable." Therefore, removal of the distal jejunum does not significantly disturb fluid or electrolyte homeostasis, as its absorptive functions can be effectively compensated by the remaining intestine.

13. (c) Lactate and/or the base deficit

The best measure of systemic perfusion (i.e., the adequacy of oxygen delivery to tissues relative to their metabolic demands) on an Arterial Blood Gas (ABG) analysis is the lactate level and/or the base deficit. When systemic perfusion is poor (as in shock), tissues switch from aerobic to anaerobic metabolism. The byproduct of anaerobic metabolism is lactic acid, which releases lactate and H^+ ions into the blood, causing metabolic acidosis. An elevated lactate level is a direct marker of tissue hypoxia and hypoperfusion. The base deficit is an indirect measure of the same process; it represents the amount of base (like bicarbonate) that has been "used up" to buffer the excess acid (like lactic acid) produced during anaerobic metabolism. A worsening base deficit (i.e., a more negative number) indicates ongoing poor perfusion. While pH (b) and bicarbonate (a) will be low in metabolic acidosis, they can be influenced by other factors (e.g., renal failure, respiratory compensation) and are not as specific or as sensitive to acute changes in perfusion as lactate or base deficit. PCO_2 (d) reflects ventilation, not perfusion.

14. (a) I, II and III

The correct answer includes statements I, II, and III. The Phrygian cap (I) is the most common congenital anomaly of the gallbladder, where the fundus is folded over the body, resembling a floppy hat of the same name. It is clinically benign. A floating gallbladder (II) (or "wandering" gallbladder) is a rare anomaly where the gallbladder is not fixed to the visceral surface of the liver but is instead completely suspended on a long mesentery. This makes it prone to torsion (twisting), which can present as an acute surgical emergency. Absence of the gallbladder (III) (gallbladder agenesis) is another rare congenital condition. Statements I, II, and III all describe well-recognized congenital abnormalities. Spigelian gallbladder (IV) is not a standard medical term. A Spigelian hernia is a specific type of ventral hernia through the linea semilunaris, and while a gallbladder could theoretically be contained within one, it is not a congenital abnormality of the gallbladder itself.

15. (c) I, III and IV

The correct answer includes statements I, III, and IV. The gallbladder has several key functions. It acts as a reservoir for bile (I) during the interdigestive period (between meals), storing it. Its mucosa actively absorbs water and electrolytes, thereby concentrating the bile (IV) by 5- to 10-fold. This concentration makes the bile more potent for fat digestion. The gallbladder mucosa also secretes mucus (III), which provides a protective layer against the detergent effects of the concentrated bile salts. Statement (II), production of bile, is incorrect. Bile is produced continuously by hepatocytes in the liver, not by the gallbladder. The gallbladder's role is strictly storage, concentration, and regulated release (contraction) in response to cholecystokinin (CCK) after a fatty meal.

16. (d) Abdominal discomfort and ascites are the main presenting features.

The most accurate statement is (d). Budd-Chiari Syndrome (BCS) is a rare condition caused by obstruction of hepatic venous outflow, which can occur from the small hepatic venules to the junction of the inferior vena cava (IVC) with the right atrium. This obstruction leads to massive hepatic congestion, portal hypertension, and hepatocellular damage. The most common clinical presentation is the subacute onset of abdominal discomfort (from hepatomegaly), ascites (from portal hypertension), and hepatomegaly. Statement (a) is incorrect; BCS has a slight predominance in females, often young to middle-aged adults, partly due to its association with hypercoagulable states like

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pregnancy or oral contraceptive use. Statement (b) is partially incorrect; while an IVC thrombus can cause BCS, the most common site of occlusion is the hepatic veins themselves, not the IVC. The most common cause is thrombosis due to an underlying myeloproliferative disorder or other prothrombotic condition. Statement (c) is incorrect; the caudate lobe (Segment 1), not the quadrate lobe, often undergoes hypertrophy. This is because the caudate lobe frequently has its own separate venous drainage directly into the IVC, sparing it from the congestion affecting the rest of the liver.

17. (b) It is usually situated in the main arterial trunk.

The most accurate statement is (b). A splenic artery aneurysm (SAA) is the most common visceral artery aneurysm. It is usually situated in the main arterial trunk of the splenic artery, most often in the distal third as it approaches the splenic hilum. These aneurysms are typically saccular. Statement (a) is incorrect; SAA is significantly more common in women, with a female-to-male ratio of about 4:1. It is strongly associated with multiparity, likely due to hormonal and hemodynamic changes during pregnancy. Statement (c) is incorrect; the most common causes are non-traumatic, including atherosclerosis, portal hypertension (leading to high flow), and fibromuscular dysplasia. While pseudoaneurysms can be caused by trauma or pancreatitis, true aneurysms are generally not. Statement (d) is incorrect; splenic artery aneurysms are generally solitary, although they are multiple in about 20% of cases.

18. (c) I, III and IV

The correct answer includes statements I, II, and IV. The primary survey and management of any trauma patient, including those with head injuries, follows the ATLS (Advanced Trauma Life Support) protocol: Airway, Breathing, Circulation, Disability, Exposure (ABCDE). Statement (I), ensuring adequate oxygenation (Breathing) and circulation (Circulation), is a fundamental part of this. Hypoxia and hypotension are the two most significant secondary insults that worsen outcomes after traumatic brain injury (TBI). Statement (IV), checking pupil size and response, is the core component of 'D' for Disability, which also includes the Glasgow Coma Scale (GCS). A unilaterally dilated or sluggish pupil can indicate uncal herniation from an expanding intracranial hematoma. Statement (II), excluding hypoglycemia, is also a critical part of the 'D' (Disability) assessment, as low blood sugar can mimic TBI symptoms like confusion or coma and is easily correctable. Statement (III), checking the mechanism of injury, is part of the secondary survey or pre-hospital information gathering ("AMPLE" history), not the immediate primary survey and management at the bedside.

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19. (d) I, II and IV

The correct answer includes statements I, II, and IV. The ABCDE mnemonic is the cornerstone of the primary survey in trauma care. Statement (I) is correct: A stands for Airway, which must be assessed and secured while maintaining cervical spine protection (e.g., with a cervical collar and manual in-line stabilization). Statement (II) is correct: B stands for Breathing and ventilation, which involves assessing for and managing life-threatening thoracic injuries (like tension pneumothorax or flail chest) and ensuring adequate oxygenation. Statement (IV) is correct: D stands for Disability, which is a rapid neurological status check, primarily consisting of the Glasgow Coma Scale (GCS) and assessment of pupil size and reactivity. Statement (III) is incorrect. In the standard ATLS algorithm, C stands for Circulation, which includes controlling hemorrhage, but its primary focus is on assessing for shock, establishing IV access, and fluid resuscitation. While "Control of massive external haemorrhage" is a critical action, the "C" itself stands for "Circulation." (Note: Newer "C-ABC" or "MARCH" protocols in tactical medicine prioritize "Catastrophic hemorrhage" first, but in standard civilian ABCDE, "C" remains "Circulation".) Based on the standard provided options, (III) is the most likely incorrect statement in this context.

20. (b) I, III and IV

The correct answer includes statements II, III, and IV. Statement (III) is correct: Inguinal hernias in children are almost always indirect. They are congenital and result from a failure of the processus vaginalis to obliterate, leaving a patent tract through which abdominal contents (bowel or omentum) can herniate. Direct inguinal hernias are acquired defects of the inguinal floor (Hesselbach's triangle) and are extremely rare in children. Statement (II) is correct: Once diagnosed, a pediatric inguinal hernia should be repaired promptly (usually on an elective basis within a few weeks). This is because infants and children have a very high risk of incarceration (the hernia contents getting "stuck") and subsequent strangulation (loss of blood supply), which is a surgical emergency. Statement (IV) is correct: A pediatric inguinal hernia, especially in an infant, may frequently be transilluminant. This is because the hernia sac often contains fluid (a communicating hydrocele) along with or instead of bowel, which will allow light to pass through. Statement (I) is incorrect: While it is more common in boys, it is significantly more common in pre-term boys (incidence up to 30%) than in full-term boys (incidence 3-5%).

21. (a) Just proximal to the glans

Hypospadias is a congenital condition in males where the urethral meatus opens onto the ventral (underside) surface of the penis, proximal to its normal location at the tip of the glans. The severity is classified based on the meatal location. The most common site is anterior or distal, which includes the glanular (on the glans itself, but proximal to the tip) and coronal/subcoronal (in the groove just behind the glans) types. The option "Just proximal to the glans" (a) best describes this common subcoronal location. This anterior group (glanular and subcoronal) accounts for approximately 50-70% of all cases. Openings further down on the penile shaft (b) (midshaft) are less common (around 20-30%). Openings at the junction of the penile shaft and scrotum (c) (penoscrotal) or on the perineum (d) (perineal) are the most severe and least common forms (around 10-20%).

22. (d) I, II and IV

The correct answer includes statements I, II, and IV, which are all advantages of Minimal Access Surgery (MAS), or laparoscopy. Statement (I) is correct: Because the procedure is performed through small ports without a large open incision, there is significantly decreased intraoperative heat loss and fluid evaporation from exposed viscera, leading to better patient thermoregulation. Statement (II) is correct: Laparoscopic cameras provide a magnified, high-definition view of the operative field, offering improved visualization of fine structures, particularly in deep spaces like the pelvis, compared to the naked eye in a deep open wound. Statement (IV) is correct: The smaller incisions result in significantly less postoperative pain and tissue trauma, leading to improved mobility, faster recovery, and a quicker return to normal activities. Statement (III) is incorrect: MAS results in decreased chances of herniation. The small port-site incisions have a much lower risk of developing into an incisional hernia compared to a large laparotomy wound.

23. (a) 3 mg/kg

The maximum safe dose of Lignocaine (Lidocaine) without adrenaline (epinephrine) as a local anesthetic is traditionally taught as 3 mg/kg. Some sources may quote up to 4.5 mg/kg, but 3 mg/kg is the most conservative and widely cited "safe" limit to avoid systemic toxicity. The addition of adrenaline causes vasoconstriction, which slows the systemic absorption of the lignocaine, thus prolonging its effect and allowing for a higher safe dose (typically 7 mg/kg). Since the question specifically asks for the dose without adrenaline, the lower value is correct. Exceeding these doses increases the risk of local anesthetic systemic toxicity (LAST), which can manifest with neurological symptoms (e.g., circumoral numbness, tinnitus, seizures) and, in severe cases, cardiovascular collapse (arrhythmias, bradycardia, asystole).
(Note: While some texts cite 4-4.5 mg/kg, 3 mg/kg is a common and safe answer, and 5 mg/kg (b) is less standard. Given the options, 3 mg/kg is the most likely correct choice.)

24. (a) I, II and IV

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The correct answer is (a), which includes statements I, II, and IV. The hallmark symptom of lymphedema is swelling (I) of the affected limb, typically pitting in the early stages and becoming non-pitting and firm (brawny) as the condition becomes chronic due to fibrosis and adipose tissue deposition. Patients also commonly report a variety of sensory symptoms, including a feeling of heaviness, tightness, aching, or discomfort. Burning sensations (II) and cramps (IV) are also recognized symptoms associated with the condition, possibly related to nerve compression or the inflammatory component of chronic lymphedema. Statement (III), intolerance to cold, is a classic symptom of arterial insufficiency (peripheral vascular disease) or conditions like Raynaud's phenomenon, where blood flow into the limb is compromised. Lymphedema is a failure of the lymphatic drainage system, and while the limb may feel different, cold intolerance is not a primary or common complaint.

25. (a) I, II and III

The correct answer includes I, II, and III. Chronic lymphedema is a state of local immunodeficiency and chronic inflammation, which predisposes the affected tissue to malignant transformation. The most well-known, though rare, complication is lymphangiosarcoma (a vascular tumor), which is not listed. However, other malignancies are also associated. Kaposi Sarcoma (I), another vascular malignancy associated with HHV-8, is known to occur in areas of chronic lymphedema (e.g., in AIDS-related or endemic KS). Squamous Cell Carcinoma (II) can also arise in chronically lymphedematous skin, similar to a Marjolin's ulcer arising in a chronic wound or burn scar. Malignant Melanoma (III) has also been reported to arise within lymphedematous limbs, possibly related to the altered immune environment. Leukemia (IV) is a hematologic malignancy of the bone marrow and blood; it is not a malignancy that arises from the soft tissues of a lymphedematous limb, although it can (rarely) cause lymphedema via lymph node infiltration.

26. (c) II, III and IV

The correct answer includes I, III, and IV. The principle of modern pilonidal sinus surgery is to excise the diseased tissue and then close the wound off-midline to reduce recurrence, which is common with simple midline closures due to poor healing in the deep natal cleft. The Limberg procedure (I) involves a rhomboid excision of the sinus, followed by the creation of a rhomboid (Limberg) flap from the adjacent gluteal fascia, which is rotated into the defect, moving the suture line off-midline. The Karydakis procedure (IV) involves an asymmetric elliptical excision, primarily to one side of the midline, and then closing the wound by mobilizing a flap from the contralateral side, resulting in a lateralized suture line. A Z-plasty (III) is a plastic surgery technique used to lengthen a scar and change its direction; it can be used in the natal cleft to break up a midline scar and flatten the cleft, thus avoiding a direct midline wound. A Y-V plasty (II) is typically used to advance tissue or release a contracture; while it's a flap technique, it's not a standard primary procedure for pilonidal sinus closure like the others.

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27. (b) $cT_2N_1M_x$

The clinical stage is determined using the TNM staging system.

T (Tumor): The tumor size is given as 3×4 cm. According to the AJCC staging for breast cancer, tumor size is based on the largest dimension.

1. T_1 : Tumor $\leq$ 2 cm
2. T_2 : Tumor $>$ 2 cm but $\leq$ 5 cm
3. T_3 : Tumor $>$ 5 cm

Since the lump is 4 cm in its largest dimension, it is classified as T_2. The lack of fixation to skin or underlying structures is consistent with T_2 (fixation would make it T_4).

N (Nodes): The examination reveals firm, mobile axillary lymph nodes (level I).

1. N_0 : No palpable nodes
2. N_1 : Palpable, mobile ipsilateral axillary lymph node(s)
3. N_2 : Fixed or matted ipsilateral axillary nodes, or clinically apparent internal mammary nodes

The "firm mobile" nodes fit the description of N_1.

M (Metastasis): The systemic examination is normal, and no distant metastasis is mentioned.

In the absence of a full workup (e.g., PET scan, CT scans), it is classified as M_x (metastasis cannot be assessed).
Combining these gives the clinical stage $cT_2N_1M_x$.

28. (c) High resolution manometry

The gold standard for diagnosing esophageal motility disorders (such as achalasia, diffuse esophageal spasm, or jackhammer esophagus) is High-Resolution Manometry (HRM). HRM involves passing a thin, flexible catheter with multiple closely spaced pressure sensors through the nose into the esophagus and stomach. The patient is then given small sips of water. The sensors record the pressure changes along the entire length of the esophagus and its sphincters (Upper and Lower Esophageal Sphincters) in real-time. This provides a detailed "topographic" map (e.g., a Clouse plot) of esophageal peristalsis and sphincter function, allowing for precise classification of motility disorders. Upper GI endoscopy (a) is essential to rule out mechanical obstruction or mucosal disease (like esophagitis or cancer) but cannot diagnose motility disorders. A Barium swallow (b) is a useful screening tool that can show functional abnormalities (e.g., "bird's beak" in achalasia, "corkscrew" esophagus) but lacks the precision of HRM. A CT scan (d) is not used for diagnosing primary motility disorders.

29. (a) I, II and III

The correct answer includes I, II, and III. Adenocarcinoma of the esophagus (which typically arises in the distal third) has a strong and well-established set of risk factors. The most important risk factor is Barrett's oesophagus (I), a condition where the normal squamous epithelium of the distal esophagus is replaced by metaplastic columnar epithelium. Barrett's itself is caused by chronic Gastro-oesophageal reflux disease (GERD) (II), making GERD a primary driver of this cancer. Obesity (III) is also a major independent risk factor; it promotes GERD (due to increased intra-abdominal pressure) and also has metabolic/hormonal effects that may contribute to carcinogenesis. In contrast, Alcohol intake (IV), along with smoking, is a primary etiological factor for the other major type of esophageal cancer: Squamous Cell Carcinoma (SCC), which typically occurs in the upper and middle thirds of the esophagus. While alcohol can worsen GERD, it is not considered a primary, direct etiological factor for adenocarcinoma in the same way as the other three.

30. (d) I, II and III

The correct answer includes statements I, II, and III. Plummer-Vinson Syndrome (PVS), also known as Paterson-Brown-Kelly syndrome, is a rare disorder. Statement (I) correctly identifies its classic triad of symptoms: dysphagia (difficulty swallowing, typically for solids), iron-deficiency anemia, and the formation of a cervical esophageal web (a thin membrane in the postcricoid area). Statement (II) is also correct; PVS is a rare condition that overwhelmingly affects middle-aged women. Statement (III) is correct; PVS is a recognized premalignant condition. Patients have a significantly increased risk of developing squamous cell carcinoma of the pharynx and postcricoid/cervical esophagus. Statement (IV) is incorrect. The treatment for PVS is primarily medical, not surgical. The cornerstone of treatment is iron supplementation, which often resolves the dysphagia and the web. If the web persists and causes symptoms, it is treated endoscopically with bougie dilation or disruption, not typically with open surgery.

31. (a) I, II and III

The correct answer includes statements I, II, and III. Dumping syndrome is a complication of gastric surgery (e.g., gastrectomy, bariatric surgery) that involves rapid gastric emptying. It has two forms: early and late. Late dumping (I) occurs later than early dumping, typically 1 to 3 hours after a meal (fitting the "second hour" description). It is caused by the rapid passage of carbohydrates into the small intestine, leading to a rapid glucose spike and a subsequent exaggerated insulin release. This results in reactive hypoglycemia. The symptoms, as stated in (III), are those of hypoglycemia: tremor, faintness, prostration, diaphoresis, and confusion. The episode is typically self-

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limiting, lasting 30-40 minutes (II). Statement (IV) is incorrect. Lying down after a meal is a management strategy for early dumping syndrome (as it slows gastric emptying). The treatment for a late dumping (hypoglycemic) episode is to ingest sugar.

32. (c) Medical therapy has no role in the treatment of this condition.

The statement that is not correct is (c). Medical therapy has a definite role in the initial management of gastric outlet obstruction (GOO) from peptic ulcer disease (PUD). The obstruction is often caused by a combination of acute inflammation/edema and chronic fibrotic scarring. The initial management involves nasogastric (NG) tube decompression to empty the stomach, intravenous fluids and electrolyte correction, and high-dose intravenous proton pump inhibitors (PPIs). This medical therapy reduces the acid, inflammation, and edema, and in a significant number of patients, it can relieve the obstruction without surgery. Statement (a) is correct; persistent vomiting of acidic gastric contents leads to a loss of H^+ and Cl^- ions, resulting in a hypochloremic, hypokalemic metabolic alkalosis. Statement (b) is correct; endoscopy with biopsy is essential to confirm the cause is benign PUD and to exclude a malignant gastric or duodenal tumor causing the obstruction. Statement (d) is correct; if medical therapy fails or if the obstruction is from fixed, chronic scarring, an operation (e.g., vagotomy) along with a drainage procedure (e.g., gastrojejunostomy or pyloroplasty) is required.

33. (a) Suxamethonium

The muscle relaxant with the quickest onset and quickest spontaneous recovery is Suxamethonium (a), also known as succinylcholine. Suxamethonium is a depolarizing neuromuscular blocker. It works by binding to nicotinic acetylcholine receptors at the neuromuscular junction, causing initial depolarization (seen as fasciculations) followed by a persistent block. Its onset of action is extremely rapid, typically 30-60 seconds, making it ideal for rapid sequence intubation (RSI). Its duration of action is also very short (5-10 minutes) because it is rapidly hydrolyzed in the plasma by the enzyme pseudocholinesterase (butyrylcholinesterase), leading to fast spontaneous recovery. Rocuronium (d) has the fastest onset among the non-depolarizing agents (60-90 seconds) but has a much longer duration (30-60 minutes). Vecuronium (b) and Atracurium (c) are intermediate-acting non-depolarizing agents with slower onsets (2-4 minutes) and longer durations.

34. (c) Ultrasound abdomen

The first imaging modality of choice in this patient is an Ultrasound abdomen (c). The patient is a 35-year-old female (of childbearing age) presenting with right lower quadrant (RLQ) pain. The differential diagnosis in this demographic is broad and includes not only appendicitis but also gynecological emergencies such as ovarian torsion, ruptured ovarian cyst, or ectopic pregnancy. Ultrasound is the preferred initial modality because it is non-invasive, does not use ionizing radiation (critical if the patient might be pregnant), and is excellent for visualizing the appendix, ovaries, and uterus. A Contrast CT abdomen (a) is highly accurate for appendicitis but is often reserved as a second-line test in this demographic if the ultrasound is inconclusive, due to the radiation exposure. A Non-contrast CT (b) is the test of choice for renal colic (kidney stones), which is less likely given the RLQ pain. A Plain X-ray (d) is non-specific and primarily used to look for bowel obstruction or free air, not to diagnose the cause of RLQ pain.

35. (d) Airway

The Mallampati test (or classification) is a simple bedside test used by anesthetists for the pre-operative assessment of the airway (d) to predict the ease of intubation. It specifically assesses the anatomy of the oropharynx. The test is performed with the patient sitting upright, head in a neutral position, mouth wide open, and tongue protruded as far as possible (without phonating). The examiner looks at which structures are visible.

1. Class I: Soft palate, fauces, uvula, and pillars are visible.
2. Class II: Soft palate, fauces, and uvula are visible.

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3. Class III: Soft palate and base of the uvula are visible.
4. Class IV: Only the hard palate is visible.

A higher Mallampati class (III or IV) is associated with a larger tongue size (a) relative to the oropharyngeal space and predicts a more difficult laryngoscopy and intubation. Ability to protrude the jaw (b) is a separate test (the upper lip bite test or jaw thrust). Breath hold time (c) is a measure of cardiopulmonary reserve.

36. (c) I, III and IV

The correct answer includes I, III, and IV. Post-operative wound dehiscence (the separation of surgical wound layers) is a serious complication caused by factors that impair wound healing. Diabetes (I) is a major risk factor as it causes microvascular disease, reducing blood flow and oxygen delivery to the wound. Hyperglycemia also impairs neutrophil function and collagen synthesis. Renal failure (III) (uremia) is also a significant risk factor; uremic toxins interfere with fibroblast function, inflammation, and collagen formation, leading to poor wound healing. Jaundice (IV), particularly obstructive jaundice, is a classic risk factor for poor wound healing. High levels of bilirubin are toxic to fibroblasts, and the absence of bile salts in the gut leads to malabsorption of fat-soluble vitamins, including Vitamin K (vital for clotting) and Vitamin D (involved in tissue repair). Hypertension (II) itself is not typically cited as a direct primary risk factor for wound dehiscence, although severe, uncontrolled hypertension can be associated with other comorbidities (like vascular disease) that do affect healing. The other three are all well-established, direct risk factors.

37. (d) Go ahead with surgery without consent

The correct answer is (d). In a true life-saving surgical emergency where there is an immediate threat to the patient's life or limb, and no time to seek authority from parents, guardians, or a court, the ethical and legal principle of implied consent (or "emergency doctrine") applies. This principle presumes that a reasonable person (or the parents of a minor) would consent to necessary, life-saving treatment if they were able to do so. In this scenario, the surgeon has a duty to act in the patient's best interest. Delaying the surgery to search for relatives (b), a lawyer (a), or a social worker (c) would be unethical and negligent, as this delay could lead to the patient's death or permanent disability. The surgeon should proceed with the necessary surgery and document the emergent nature of the situation and the inability to obtain consent in the medical record, ideally with the concurring opinion of another physician.

38. (a) I, II and III

The correct answer is (a), which includes statements I, II, and III. Valid informed consent is a process, not just a signature, and requires the patient to understand several key elements. These include: the nature of their condition and the diagnosis (I), and the reason why surgery is being recommended. The patient must be informed of the type of surgery proposed (II), including the purpose, what the procedure involves, and the expected outcomes. The patient must also be informed of the potential risks and complications (hazards) of the proposed surgery (III), particularly those that are common or serious. This discussion should also include the benefits of the surgery and any available alternative treatments (including no treatment). Statement (IV), disclosing the surgeon's personal experience and expertise (or lack thereof), is a more complex and debated ethical topic. While some argue for it, it is not a universally mandated component for establishing basic valid consent in most legal jurisdictions, whereas the first three (Diagnosis, Procedure, Risks/Benefits/Alternatives) are fundamental.

39. (c) Report the negative results

The correct and ethical course of action is to report the negative results (c). Publication bias, the tendency to publish positive results (those that support a hypothesis) while suppressing negative or inconclusive ones, is a major problem in scientific literature. Negative results are not "worthless" (a); they are just as important as positive results. They prevent other researchers from wasting time and resources investigating the same failed hypothesis, and they contribute to the totality of evidence, which is crucial

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for systematic reviews and meta-analyses. A negative result is a valid scientific outcome. Redoing the study with a new hypothesis (b) or redesigning it (d) simply because the original hypothesis was not proven is a form of data dredging or "p-hacking" and is poor scientific practice. The study, if well-designed, answered the question it set out to ask, and that answer (even if negative) should be reported.

40. (a) I, II and III

The correct answer includes statements I, II, and III. Statement (I) is correct: Barbed sutures are a newer technology with small barbs along their length that anchor into the tissue. This self-anchoring mechanism distributes tension evenly and eliminates the need for tying knots to secure the suture line. Statement (II) is correct: The vertical mattress suture is a "far-far, near-near" stitch that is specifically designed to produce eversion of the wound edges. This is particularly useful for closing wounds in areas with thick skin or where the edges tend to invert (fold inwards). Statement (III) is correct: The Aberdeen knot is a specialized, self-locking knot that is widely used to secure the end of a continuous suturing line (e.g., in fascial closure), as it is stronger and more secure than multiple square knots. Statement (IV) is incorrect: Silk is a braided, non-absorbable suture that is known to cause a significant inflammatory reaction. It is not preferred for subcuticular (intradermal) suturing, where it would be buried permanently and could lead to inflammation, infection, or "suture spitting." Absorbable monofilament sutures (like Monocryl) or non-absorbable monofilaments that are later removed (like Prolene) are preferred for subcuticular closure.

41. (a) the dusky hue of the vestibule and anterior vaginal wall visible at about 8th week of pregnancy

Chadwick's sign (a) is one of the probable signs of pregnancy. It is a bluish or dusky hue (cyanosis) of the vestibule, anterior vaginal wall, and cervix. This discoloration is caused by increased vascularity (venous congestion) in the pelvic organs under the influence of pregnancy hormones (estrogen and progesterone). It becomes visible from around the 8th week of pregnancy. Option (b), softening of the cervix at 6 weeks, is known as Goodell's sign. Option (c) describes part of the bimanual examination to assess uterine size and position, not a specific sign. Option (d), intermittent, painless uterine contractions, is known as Palmer's sign when felt on bimanual examination or Braxton Hicks contractions later in pregnancy.

42. (c) I, III and IV

The correct answer is (c), including I, III, and IV. Pregnant women with sickle cell disease (SCD) are in a high-risk category due to increased metabolic demands and a prothrombotic state. Management is multidisciplinary. Statement (I), high-dose folic acid (1 mg or even 5 mg daily), is recommended. SCD is a chronic hemolytic anemia, leading to a high turnover of red blood cells, which consumes folate stores. Pregnancy further increases folate demand, so supplementation is essential to prevent megaloblastic anemia. Statement (III), Penicillin prophylaxis (e.g., Penicillin V 250 mg twice daily), is often continued during pregnancy (as it is in non-pregnant adults with SCD) to prevent life-threatening infections, particularly from encapsulated organisms like Streptococcus pneumoniae, due to functional asplenia. Statement (IV), Thromboprophylaxis with LMWH, is recommended as pregnancy is a hypercoagulable state, and SCD itself is a prothrombotic condition. This combination places the woman at very high risk for venous thromboembolism (VTE). Statement (II), Azathioprine, is an immunosuppressant and is not a standard treatment for sickle cell disease.

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43. (d) I, II and III

The correct answer includes I, II, and III. External Cephalic Version (ECV) is a procedure to turn a breech fetus to a cephalic (head-down) presentation. Statement (I) is a relative contraindication: ECV is typically not attempted before 36-37 weeks. Before this, the fetus may turn spontaneously, and if an emergency delivery is precipitated by the procedure, the baby would be preterm. Statement (II), Multiple pregnancy (e.g., twins), is a contraindication. The presence of a second fetus makes the version difficult, if

not impossible, and carries risks for both twins. Statement (III), Previous cesarean delivery, is a relative contraindication. While some centers perform ECV after one prior C-section, many consider it a contraindication due to the theoretical (though small) risk of uterine rupture at the scar site during the manipulation. Statement (IV), Rhesus isoimmunization, is not a contraindication. However, it is an indication to give Anti-D immunoglobulin after the procedure, as ECV carries a small risk of feto-maternal hemorrhage, which could worsen sensitization.

44. (a) Raised HbA_2 and low MCV

The correct answer is (a). Thalassemia trait (specifically Beta-thalassemia minor) is a genetic condition characterized by reduced synthesis of the beta-globin chains of hemoglobin. This results in red blood cells that are small (microcytic) and pale (hypochromic). Therefore, a key finding is a low Mean Corpuscular Volume (MCV). The body compensates for the reduced beta-chain production by increasing the production of other hemoglobin types. This leads to a raised HbA_2 (Alpha2/Delta2) level, which is typically >3.5% on hemoglobin electrophoresis and is the diagnostic hallmark of Beta-thalassemia trait. In contrast, iron deficiency anemia also presents with a low MCV, but HbA_2 levels are normal or low. Option (b) Low MCHC (hypochromia) is seen, but the combination in (a) is more specific. Option (c) Low TIBC is seen in anemia of chronic disease, not iron deficiency (where it's high). Option (d) describes the opposite findings (macrocytosis and low HbA_2).

45. (a) Hydroxychloroquine

The safest and most recommended drug for maintenance therapy of SLE throughout pregnancy is Hydroxychloroquine (HCQ) (a). HCQ is an antimalarial drug with immunomodulatory properties that is crucial for controlling SLE disease activity. Discontinuing HCQ during pregnancy is associated with a significantly higher risk of disease flares, which can be dangerous for both the mother (e.g., lupus nephritis) and the fetus (e.g., preterm birth, growth restriction). Multiple studies have shown HCQ to be safe in pregnancy with no evidence of teratogenicity. It is also believed to reduce the risk of congenital heart block in babies born to anti-Ro/SSA positive mothers. Sulfasalazine (b) is used more for inflammatory bowel disease or rheumatoid arthritis. Tacrolimus (c) is a potent immunosuppressant (calcineurin inhibitor) used for severe lupus nephritis or organ transplantation; while it can be used in pregnancy if necessary, it is not the standard maintenance drug for stable SLE. Progestins (d) are hormones and have no role in treating SLE.

46. (a) I, II, III and IV

The correct answer is (a), as all four are recognized complications of severe hyperemesis gravidarum (HG). HG is a condition of intractable nausea and vomiting leading to fluid/electrolyte imbalance, >5% weight loss, and ketonuria. Wernicke's encephalopathy (I) is a severe neurological complication caused by thiamine (Vitamin B1) deficiency, which can result from prolonged vomiting and malnutrition. Hepatic failure (II) (or more commonly, hepatic dysfunction) can occur, with elevated transaminases (ALT/AST) seen in up to 50% of women hospitalized with HG, though fulminant failure is rare. Hypoprothrombinemia (III) (a low prothrombin level, leading to a high PT/INR) can result from Vitamin K deficiency, another fat-soluble vitamin lost due to malnutrition and vomiting. Convulsions (IV) (seizures) are a rare but serious complication that can be caused by severe metabolic disturbances, such as hyponatremia, hypoglycemia, or as a manifestation of Wernicke's encephalopathy.

47. (a) Benign cystic teratoma

The most common ovarian mass found during pregnancy is a functional cyst (e.g., corpus luteum cyst), which typically resolves. However, among neoplastic ovarian tumors (which this question implies by listing "tumour" types), the most common one seen during pregnancy is the Benign Cystic Teratoma (a), also known as a dermoid cyst. These are germ cell tumors that are typically benign and often found incidentally on early pregnancy ultrasound. They are prone to complications like ovarian torsion, which is

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more common during pregnancy (due to the enlarging uterus displacing the ovary) and in the postpartum period. Mucinous cystadenoma (b) is another common benign epithelial tumor, but dermoids are generally cited as the most frequent. Endometriomas (c) are cysts related to endometriosis and often regress during pregnancy due to high progesterone levels (decidualization). Adenocarcinoma (d) (malignant epithelial tumor) is rare, accounting for a very small percentage of ovarian masses in pregnancy.

48. (d) II, III and IV

The correct answer is (d), which includes statements II, III, and IV. Shoulder dystocia is an obstetric emergency where the fetal head delivers, but the anterior shoulder becomes impacted behind the mother's pubic symphysis. Statement (III) is correct: The "turtle neck sign" is the classic diagnostic sign, where the fetal head delivers but then retracts back against the perineum as the anterior shoulder is stuck. Statement (II) is correct: Anencephaly (a neural tube defect with an absent cranial vault) is a risk factor. Although the fetus may not be macrosomic, the abnormal presentation (e.g., face presentation) and lack of head flexion can lead to dystocia. Statement (IV) is correct: While a prophylactic episiotomy does not prevent shoulder dystocia, once it is diagnosed, a generous episiotomy (or "proctoepisiotomy") should be given. This does not free the bone-to-bone impaction but provides crucial space within the vagina for the operator to insert their hand and perform internal rotational maneuvers (e.g., Woods' screw, Rubin's). Statement (I) is incorrect: Shoulder dystocia is notoriously unpredictable. While risk factors (like macrosomia, maternal diabetes) are known, most cases occur without risk factors, and it cannot be reliably predicted during early labor.

49. (b) Hyponatremia

The patient's symptoms of confusion and seizures ("fits") in the context of a high-dose oxytocin infusion (30 mIU/min) are classic signs of dilutional hyponatremia. Oxytocin has a chemical structure very similar to Antidiuretic Hormone (ADH), also known as vasopressin. At low physiological doses, its antidiuretic effect is negligible. However, at high pharmacological doses (typically >20 mIU/min), oxytocin can bind to ADH receptors in the renal collecting ducts, exerting a significant antidiuretic effect. This causes the kidneys to retain free water. If the oxytocin is administered in a large volume of hypotonic fluid (like D5W), this free water retention rapidly dilutes the serum sodium concentration. The resulting acute hyponatremia leads to cerebral edema, which manifests clinically with headache, nausea, confusion, and, if severe, seizures and coma. Hypokalemia (a), hypocalcemia (c), and hypernatremia (d) are not the expected primary complications of high-dose oxytocin.

50. (c) I, III and IV

The correct answer is (c), which includes statements I, III, and IV. An occipito-posterior (OP) position means the fetal occiput is in the posterior part of the maternal pelvis. Statement (I) is a contributing factor: An anthropoid pelvis is characterized by a long anteroposterior (AP) diameter and a relatively narrow transverse diameter. This oval shape encourages the fetal head (which is also longest in its AP diameter) to engage in a direct AP orientation, either direct OP or direct OA. Statement (III) is a known association: An anterior placenta (attached to the anterior uterine wall) may encourage the fetus to face it, meaning its back (and thus occiput) is positioned posteriorly. Statement (IV), Primary brachycephaly (a fetal head that is wide transversely and short anteroposteriorly), can also favor an OP position, as the wide transverse diameter may struggle to fit the transverse diameter of the inlet, leading to malposition. Statement (II), Low inclination pelvis (often associated with an android pelvis or a flat sacrum), is a factor that prevents the spontaneous rotation of the fetal head from an OP position to an OA (anterior) position during labor, leading to a persistent OP position, but it doesn't necessarily favor the initial posterior engagement.

51. (b) I, II and IV only

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Umbilical cord prolapse is an obstetric emergency where the cord descends alongside or past the fetal presenting part, occurring after membrane rupture. This can lead to fetal hypoxia from cord compression. The primary mechanism involves a poor fit or lack of occlusion of the pelvic inlet by the fetal presenting part, leaving space for the cord to descend.

I. Malpresentations: This is a major risk factor. Transverse, oblique, or breech (especially footling breech) presentations do not conform well to the maternal pelvis, creating gaps.
II. Contracted pelvis: A pelvis with an abnormally small inlet can prevent the fetal head from engaging, leaving space above the inlet for the cord to prolapse.
IV. Prematurity: A preterm or small-for-gestational-age fetus, even in a cephalic presentation, may not fully occupy the pelvic inlet, thus increasing the risk.

Conversely, III. Stabilizing induction is an intervention designed to prevent cord prolapse, not cause it. It is performed in cases of an unstable lie (a risk factor) at term. The procedure aims to "stabilize" the fetus into a longitudinal (preferably cephalic) lie using external version, followed immediately by amniotomy and oxytocin infusion to ensure the presenting part engages and occludes the inlet, thereby preventing the cord from prolapsing. Therefore, I, II, and IV are associated factors, while III is a preventive management strategy.

52. (a) I, III and IV

Magnesium sulfate ($MgSO_4$) is used in obstetrics for eclampsia seizure prophylaxis and tocolysis. It has a narrow therapeutic index, necessitating close clinical monitoring for toxicity. Its mechanism involves neuromuscular blockade and CNS depression. The signs of toxicity are progressive and correlate with rising serum magnesium levels.

I. Loss of tendon reflexes: This is the earliest clinical sign of toxicity. The patellar deep tendon reflex typically disappears at serum levels of 8–10 mEq/L (therapeutic range is 4–7 mEq/L).
II. Increased respiratory rate: This is incorrect. As magnesium levels rise further (10–12 mEq/L), $MgSO_4$ causes respiratory depression and paralysis, leading to a decreased respiratory rate (bradypnea) and ultimately, respiratory arrest.
III. Chest pain, heart block: At supratherapeutic levels (>10-15 mEq/L), magnesium is cardiotoxic. It depresses myocardial conductivity and contractility, leading to bradycardia, vasodilation, hypotension, and ECG changes such as prolonged PR interval, widened QRS, and complete heart block.
IV. Cardiac arrest: At severe toxicity levels (>15-20 mEq/L), profound cardiovascular collapse occurs, culminating in asystole and cardiac arrest.

The antidote for $MgSO_4$ toxicity is intravenous calcium gluconate. Since loss of reflexes, heart block, and cardiac arrest are all features of toxicity, while increased respiratory rate is not, the correct combination is I, III, and IV.

53. (c) Recurrence rate in subsequent pregnancy is 60-70%

Postpartum psychosis (PPP) is a severe psychiatric emergency, affecting 1-2 per 1000 deliveries. It is most commonly considered a manifestation of bipolar disorder.

(a) This is incorrect. There is a very strong association with a personal or family history of bipolar disorder or schizoaffective disorder. A personal history of PPP is the single greatest risk factor.
(b) This is partially true but not the best answer. The onset is typically rapid and early, usually within the first 2 weeks postpartum, and often within the first 48-72 hours. However, the statement in (c) is a more defining and clinically significant fact.
(d) This is incorrect. While Electroconvulsive Therapy (ECT) is a highly effective, safe, and rapidly acting treatment for PPP (especially with catatonia or severe suicidal ideation), it is not the first treatment of choice. First-line management involves immediate hospitalization (for the safety of mother and baby), followed by antipsychotic medications (e.g., olanzapine) and/or mood stabilizers (e.g., lithium).

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(c) This is the most accurate statement. The risk of recurrence of PPP in a subsequent pregnancy is exceptionally high, with most sources citing rates between 50% and 70%. This high risk necessitates pre-conception counseling and a clear prophylactic management plan for subsequent pregnancies, often involving immediate postpartum initiation of mood stabilizers.

54. (d) I, II and III

Cracked nipples are a common and painful problem in early breastfeeding, most often caused by incorrect latch or positioning.

I. Correct attachment (Latch on): This is the cornerstone of both prevention and treatment. A poor latch (e.g., the baby sucking only on the nipple tip) causes friction and trauma. Ensuring the baby takes a large mouthful of breast tissue (areola), with the nipple far back in the mouth, immediately reduces pressure and pain on the nipple itself, allowing it to heal while breastfeeding continues.

II. If pain: If the pain is too severe to allow latching, or if the nipple is actively bleeding, it is recommended to temporarily stop feeding from that breast. The mother should use a breast pump to express milk, which maintains her milk supply and prevents engorgement. The expressed milk can then be fed to the infant. This allows the nipple 24-48 hours to begin healing.

III. Miconazole lotion: While most cracks are traumatic, they can become infected. A common secondary infection is Candida albicans, especially if the baby has oral thrush (white plaques in the mouth). In this scenario, the treatment must address both mother and baby. An antifungal cream or lotion, such as miconazole, is applied to the nipple (and washed off before feeds, depending on formulation), and an oral antifungal (like miconazole gel or nystatin suspension) is given to the baby.

All three statements represent correct management strategies for cracked nipples, depending on the cause and severity.

55. (d) I, II and III

Puerperal blues (also known as "baby blues" or "maternity blues") is a common, transient, and mild mood disorder that occurs in the immediate postpartum period.

I. Its incidence is around 50%: This is correct. Puerperal blues is very common, with most estimates placing the incidence between 50% and 80% of new mothers. It typically begins within the first 2-3 days after delivery.

II. There is no specific metabolic or endocrine derangement: This is also considered correct. While the exact etiology is unknown, it is thought to be related to the rapid and dramatic hormonal shifts (e.t., sudden drop in estrogen and progesterone) after delivery, combined with factors like sleep deprivation, fatigue, and the emotional stress of new motherhood. However, it is not classified as a distinct endocrine or metabolic disease; no specific, identifiable derangement is diagnostic.

III. Treatment is reassurance and psychological support: This is the correct management. The symptoms—such as tearfulness, anxiety, irritability, and mood lability—are self-limiting and typically peak around day 5, resolving spontaneously within 10-14 days. The primary treatment is validation of the mother's feelings, education that this is a normal and temporary experience, reassurance, and strong psychological support from family, friends, and healthcare providers. Pharmacological treatment is not indicated.

All three statements accurately describe the characteristics and management of puerperal blues.

56. (a) marginal separation of placenta in normal labour

This question refers to the two classical mechanisms of placental separation during the third stage of labor, after the fetus has been delivered. The separation occurs in the stratum spongiosum of the decidua.

(b) Central separation (Schultze mechanism): This is the more common method (approx. 80%). Separation begins in the center of

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the placenta. A retroplacental hematoma forms, which pushes the placenta away from the uterine wall, causing it to invert and deliver with the fetal surface (the shiny, amniotic side) presenting first. The hematoma is contained within the membranes, so bleeding is often not visible until the placenta is delivered. This is known as the "Shiny Schultze" mechanism.

(a) Marginal separation (Matthews Duncan mechanism): This is less common (approx. 20%). Separation begins at the periphery, or margin, of the placenta. Blood from the separation site is not trapped; it escapes from behind the placenta and trickles down between the membranes and the uterine wall. This external bleeding is seen before the placenta is expelled. The placenta then slides down and presents with its maternal surface (the rough, cotyledonary, "dirty" side) first. This is known as the "Dirty Duncan" mechanism.

Options (c) and (d) are unrelated interventions.

57. (c) Supralevator hematoma

This clinical picture is classic for a postpartum pelvic hematoma, specifically one located deep within the pelvis.

(b) Vulval hematoma: This would present with severe perineal pain, but the hematoma would be visible externally as a tense, tender, ecchymotic swelling of the vulva. The symptoms of rectal tenesmus and urinary retention are less likely.

(d) Complete perineal tear: This involves a tear through the rectal mucosa (fourth-degree) or just the sphincter (third-degree). While painful, it is a visible diagnosis on inspection of the perineum and is typically associated with fecal incontinence, not tenesmus.

(a) Cervical tear: This usually presents with persistent, bright red vaginal bleeding in the presence of a well-contracted uterus, as the tear involves cervical arteries. It does not typically cause a palpable mass or pressure symptoms.

(c) Supralevator hematoma: This is a deep, concealed hematoma that forms from trauma to vessels (often branches of the uterine artery) above the levator ani muscle. The blood collects in the broad ligament or retroperitoneally. Because it is deep, there are no external signs. The expanding hematoma compresses adjacent structures, classically causing persistent, severe pain (often disproportionate to physical findings), rectal tenesmus (pressure on the rectum), a bearing-down feeling, and urinary retention (pressure on the bladder neck). It can be a life-threatening cause of concealed hemorrhage.

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58. (a) Duration of latent phase of primigravida has not been established

The WHO 2018 guidelines on intrapartum care represented a significant shift from older, more rigid definitions of labor progress (like the "Friedman curve"). These guidelines emphasize that labor duration varies significantly between women.

The key recommendation regarding the first stage is the re-definition of the "active" phase. The WHO defines the active phase as a period characterized by regular, painful uterine contractions and substantial cervical change, starting from 5 cm dilatation. The latent phase is the period before this (0-5 cm).

(a) Duration of latent phase of primigravida has not been established: This is the correct statement. The WHO guidelines explicitly state that the duration of the latent phase is highly variable (often 8 hours or more) and has "not been established." They recommend against interventions for "prolonged latent phase" as long as the mother and fetus are well.

(b), (c), (d): The WHO guidelines moved away from specific hourly time limits for the active phase. They state that a cervical dilatation rate of 1 cm/hour is "unrealistically fast" for many women. They recommend intervention (e.g., augmentation) for delay only if labor progress (dilatation) is slower than 1 cm in 2 hours after 5 cm dilatation, effectively challenging the older, rigid timeframes. None of the options (b, c, d) reflect the current WHO guidance, which de-emphasizes strict time cutoffs.

59. (a) I and II only

The WHO 2018 guidelines emphasize a woman-centered approach to labor and delivery, promoting mobility and patient choice.

I. For a woman without epidural analgesia, adoption of birthing position is individual woman's choice: This is correct. The guidelines strongly recommend encouraging women to choose their own position for birth, including upright, lateral, or kneeling positions, as it promotes comfort and autonomy.

II. For a woman without epidural analgesia, upright birthing position may be adopted: This is correct. The guidelines explicitly support upright positions (e.g., squatting, kneeling, standing) for women without an epidural. Research suggests upright positions can shorten the second stage of labor and may reduce the need for assisted vaginal birth, though they may be associated with a slightly higher risk of second-degree tears.

III. For a woman with epidural analgesia, lithotomy and supine position only are recommended: This is incorrect. The WHO guidelines recommend against routinely using the supine or lithotomy position, even in women with an epidural. While an epidural may limit mobility, the guidelines still encourage women to adopt a position they find comfortable, such as a lateral (side-lying) position or a semi-recumbent position, as these are associated with better hemodynamic stability and potentially improved fetal outcomes compared to the supine position (which can cause aortocaval compression).

Therefore, statements I and II are correct recommendations from the guidelines.

60. (d) I, II, III and IV

The first-trimester ultrasound, ideally performed between 10 and 13+6 weeks, is the most critical scan in a multiple pregnancy. Its objectives are comprehensive.

I. Number of foetus: This is the most basic objective, confirming a twin (or higher-order) pregnancy.

II. Viability of foetus: This is essential. The scan confirms fetal heart activity in both (or all) fetuses. This rules out a "vanishing twin" scenario or a missed abortion.

III. Chorionicity of twins: This is arguably the most important finding of the first-trimester scan. Determining whether the pregnancy is monochorionic (sharing one placenta) or dichorionic (two separate placentas) is the primary determinant of risk and future management. Monochorionic pregnancies are at high risk for complications like Twin-to-Twin Transfusion Syndrome (TTTS). Chorionicity is most reliably determined in the first trimester by observing the "lambda sign" (dichorionic) or "T-sign" (monochorionic) at the inter-twin membrane junction.

IV. Malformation in either foetus: This scan coincides with the nuchal translucency (NT) scan. This is the optimal time to screen for aneuploidy (like Down syndrome) by measuring the NT and to perform an early anatomical survey to detect major structural malformations (e.g., anencephaly, large body stalk defects) in each fetus.

All four are critical objectives of the 10-13 week ultrasound in a twin pregnancy.

61. (c) I, III and IV

Infants of diabetic mothers (IDMs) are at risk for a wide range of complications due to the in-utero environment, primarily characterized by maternal hyperglycemia leading to fetal hyperinsulinemia.

I. Hyperbilirubinemia: This is a common complication. It is often multifactorial, resulting from polycythemia (fetal hypoxia stimulates erythropoietin production), an increased red cell volume, and relative immaturity of the neonatal liver's conjugating ability (glucuronyl transferase enzyme).

II. Hypercalcemia: This is incorrect. The infant of a diabetic mother is at high risk for hypocalcemia. The exact mechanism is debated but may be related to delayed parathyroid hormone (PTH) production, suppression of PTH by high fetal insulin

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levels, or maternal-fetal magnesium disturbances.

III. Cardiomyopathy: This is a well-recognized complication, specifically a hypertrophic cardiomyopathy (thickening of the interventricular septum and ventricular walls). This is a direct result of fetal hyperinsulinemia, as insulin acts as a growth factor on the myocardium. The condition is usually transient and resolves as insulin levels normalize.

IV. Hypoglycemia: This is the most common metabolic complication in an IDM. The fetus produces high levels of insulin to manage the high glucose load from the mother. After birth, the maternal glucose supply is abruptly cut off, but the neonate's pancreas continues to hyper-secrete insulin, leading to rapid and profound hypoglycemia.

Therefore, hyperbilirubinemia, cardiomyopathy, and hypoglycemia are known complications.

62. (d) II, III and IV

Fetal Growth Restriction (FGR) refers to a fetus that fails to achieve its genetically determined growth potential. Predicting which pregnancies are at high risk is a key goal of antenatal care.

I. Low level of maternal 1st trimester Beta hCG: This is incorrect. A low level of PAPP-A (Pregnancy-Associated Plasma Protein-A) in the first trimester is strongly associated with placental dysfunction and subsequent FGR and pre-eclampsia. A low Beta hCG is more commonly associated with aneuploidy (like Trisomy 18) or impending miscarriage, not typically FGR.

II. Abnormal uterine artery Doppler at 20-24 weeks: This is a correct and powerful predictor. This scan assesses placental vascular resistance. High resistance, often indicated by a high Pulsatility Index (PI) or the presence of an early diastolic "notch," signifies poor placentation and is a strong predictor for later development of FGR and pre-eclampsia.

III. Fetal echogenic bowel on ultrasound: This is a correct "soft marker." While nonspecific, echogenic (bright) bowel can be associated with several pathologies, including aneuploidy (Trisomy 21), congenital infection (CMV), cystic fibrosis, and FGR due to placental insufficiency.

IV. Maternal medical disorder: This is correct. This is a major category of risk factors. Maternal conditions like chronic hypertension, pre-gestational diabetes, renal disease, and autoimmune disorders (e.g., SLE, Antiphospholipid Syndrome) are all strongly associated with vascular and placental compromise, leading to FGR.

Therefore, II, III, and IV are all recognized predictive factors or associations.

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63. (d) Umbilical artery doppler

This question asks for the primary surveillance tool for a diagnosed Growth Restricted Fetus (FGR).

(a) Uterine artery doppler: This is a screening tool, typically performed at 20-24 weeks to predict the risk of developing FGR or pre-eclampsia later in pregnancy. It assesses maternal placental perfusion. Once FGR is established, its utility as a surveillance tool is limited.

(d) Umbilical artery (UA) doppler: This is the primary and most important tool for surveillance and management of established F-GR, especially early-onset FGR. The UA Doppler reflects the resistance in the placental vascular bed. As placental insufficiency worsens, the end-diastolic flow (EDF) progressively decreases. This is classified as:

(i) Reduced EDF
(ii) Absent End-Diastolic Flow (AEDF)
(iii) Reversed End-Diastolic Flow (REDF)

This progression from absent to reversed flow is a strong indicator of impending fetal compromise and severe acidosis, and it is a key determinant in deciding the timing of delivery.

(c) Middle cerebral artery (MCA) doppler: This is an important adjunctive tool. It is used to detect the "brain-sparing" effect, where the fetus preferentially shunts blood to the brain in response to hypoxia. This is seen as a decreased Pulsatility Index (PI) in the MCA.

(b) Umbilical venous pulsation: This is a late and ominous sign of severe fetal compromise, indicating right-sided heart failure. While part of surveillance, it is not the primary tool; it's a sign of end-stage disease.

64. (a) lymphatic drainage of vulva

The Gland of Cloquet, also known as Rosenmüller's gland, is not actually a gland but rather a lymph node. It is the highest and most superior-medial deep inguinal lymph node. It is located in the femoral canal, just medial to the femoral vein and beneath the inguinal ligament. Its clinical significance relates to the (a) lymphatic drainage of the vulva. The vulva (labia, clitoris) primarily drains to the superficial inguinal lymph nodes. From there, lymph flows to the deep inguinal nodes, with the Gland of Cloquet being the "sentinel" or gateway node of this deep group. In cases of vulvar cancer, metastasis often follows this pathway. If the Gland of Cloquet is positive for cancer, it implies spread to the deep pelvic nodes (external iliac), which significantly worsens the prognosis and alters surgical management.

(b) The cervix primarily drains to the parametrial, obturator, and internal/external iliac nodes.

(c) The uterus drains to the external iliac, obturator, and (from the fundus) para-aortic nodes.

(d) The vagina has no true glands (lubrication comes from cervical/Bartholin's glands and transudate); lubricating glands near the vagina are Bartholin's glands, which are distinct structures.

65. (c) I, II and III

The FIGO (International Federation of Gynecology and Obstetrics) classification system for Abnormal Uterine Bleeding (AUB) uses the acronym PALM-COEIN. This system divides the etiologies into two main groups.

The PALM group refers to causes that are structural and can be assessed visually, primarily through imaging, and confirmed with histopathology.

1. Polyp (endometrial or cervical)
2. Adenomyosis
3. Leiomyoma (fibroid)
4. Malignancy and hyperplasia

The COEIN group refers to causes that are non-structural and are diagnosed through laboratory tests or by exclusion.

1. Coagulopathy
2. Ovulatory dysfunction
3. Endometrial (e.g., local inflammation)
4. Iatrogenic (e.g., IUD, medications)

Let's evaluate the statements based on the PALM group:

I. Structural lesions: This is correct. Polyps, adenomyosis, leiomyomas, and malignancy are all discrete, structural, anatomical abnormalities.

II. Diagnosed by ultrasound: This is correct. Transvaginal ultrasound is the primary diagnostic imaging modality used to identify polyps, fibroids (leiomyomas), and signs of adenomyosis or malignancy (e.g., thickened endometrium).

III. Confirmed by histopathology: This is correct. While ultrasound provides a diagnosis, the definitive diagnosis for polyps and malignancy/hyperplasia requires a tissue sample (e.g., from hysteroscopy, D&C, or endometrial biopsy) for histological confirmation. Leiomyoma and adenomyosis are confirmed by histopathology after hysterectomy, although they are confidently diagnosed by imaging.

All three statements are key characteristics of the PALM category.

66. (a) Valacyclovir 1 g once daily

This question refers to the standard prophylactic (suppressive) dosing for genital herpes (HSV-2, or genital HSV-1) to reduce the frequency of recurrent outbreaks. This is distinct from episodic therapy, which uses higher doses for a shorter duration to treat an active outbreak.

Let's analyze the options:

(a) Valacyclovir 1 g once daily: This is a standard and commonly prescribed regimen for suppressive therapy in immunocompetent individuals. An alternative is Valacyclovir 500 mg once daily, but 1 g is used, especially for patients with very frequent (e.g., >10) recurrences per year.

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(b) Acyclovir 400 mg once daily: This is an incorrect dose. The standard episodic therapy for a primary outbreak is 400 mg thrice daily. The standard suppressive dose is 400 mg twice daily. 400 mg once daily is not a standard regimen.

(c) Acyclovir 400 mg thrice daily: This is the standard episodic therapy dose for a primary genital herpes infection (typically for 7-10 days). It is not used for long-term daily suppression.

(d) Valacyclovir 1 g twice daily: This is the standard episodic therapy dose for a recurrent outbreak (typically for 3-5 days). It is not the daily suppressive dose.

Comparing the options, (a) is the only one that represents a correct suppressive therapy regimen, as recommended by CDC and other guidelines. The other common suppressive regimen is Acyclovir 400 mg twice daily.

67. (a) I, II and III

Pelvic Inflammatory Disease (PID) is an infection and inflammation of the upper female genital tract, including the endometrium, fallopian tubes (salpingitis), ovaries (oophoritis), and pelvic peritoneum. It is typically an ascending infection from the cervix/vagina.

I. N. gonorrhoeae (Gonococcus): This is a classic and primary causative agent of PID. It is a sexually transmitted gram-negative diplococcus that directly invades and damages the tubal mucosa.

II. Chlamydia (Chlamydia trachomatis): This is the most common bacterial sexually transmitted infection and a primary cause of PID. It often causes a "silent" or subclinical PID, leading to significant long-term sequelae like tubal factor infertility and ectopic pregnancy.

III. Mycoplasma hominis: This organism, along with Mycoplasma genitalium and Ureaplasma urealyticum, is increasingly recognized as a significant pathogen in PID. It is often found in polymicrobial infections and is associated with salpingitis and endometritis, particularly in PID cases that are negative for gonorrhea and chlamydia.

IV. Candida albicans: This is a fungus. It is a common cause of vulvovaginal candidiasis (a yeast infection), which is an infection of the lower genital tract. It does not typically ascend to cause PID.

Therefore, the primary bacterial organisms involved in initiating and causing PID are N. gonorrhoeae, C. trachomatis, and Mycoplasma species.

68. (d) I, II and III

A dermoid cyst, more formally known as a mature cystic teratoma, is the most common type of ovarian neoplasm in women of reproductive age.

I. Germ cell ovarian tumour: This is correct. Dermoid cysts arise from primordial germ cells, which are totipotent. This is why they contain mature tissues from all three germ layers (e.g., hair and skin from ectoderm, thyroid tissue from endoderm, and bone/cartilage from mesoderm).

II. Bilateral in 15-20% cases: This is correct. While most (80-85%) are unilateral, a significant minority, estimated at 15-20%, are bilateral. This is an important clinical feature to remember during surgical management.

III. Torsion is common: This is correct. Dermoid cysts are the most common ovarian tumor to undergo torsion (twisting of the adnexa on its vascular pedicle). This is because they are typically medium-sized, have a smooth surface, and a long pedicle, which allows them to be mobile and twist, leading to acute surgical abdomen.

IV. Rupture is common: This is incorrect. Spontaneous rupture of a dermoid cyst is very rare. When it does occur, it is a surgical emergency because the highly irritating, sebaceous contents spill into the peritoneum, causing a severe chemical peritonitis that can be life-threatening. Torsion is a far more common complication than rupture.

Therefore, statements I, II, and III are correct characteristics.

69. (d) Gartner's cyst

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Chronic uterine inversion is a rare condition where the uterine fundus has turned inside out and remains inverted for >4 weeks (vs. acute inversion, which occurs immediately postpartum). It typically presents as a mass protruding through the cervix. The differential diagnosis includes other "masses" seen at the cervix.

(a) Fibroid polyp (Prolapsed submucous leiomyoma): This is the most common differential diagnosis. A large, pedunculated fibroid arising from the uterine cavity can prolapse through the cervix, appearing as a firm, smooth mass that can be mistaken for the inverted fundus.

(b) Fungating cervical malignancy: An advanced, exophytic cervical cancer can create a large, friable, necrotic mass that fills the vagina and protrudes from the introitus, mimicking an inverted uterus.

(c) Cervical prolapse (Uterovaginal prolapse): In severe prolapse (procidentia), the cervix and uterus descend down the vagina. However, the anatomy is normal (the fundus is still at the top), but its position is low. This is a key differential, and examination to identify the cervical os and uterine body is key.

(d) Gartner's cyst: This is a benign, embryological remnant of the Wolffian (mesonephric) duct. It is a cyst found on the wall of the vagina, typically the anterolateral wall. It is a vaginal wall cyst, not a cervical or uterine mass. It would not be mistaken for the entire inverted uterine fundus protruding through the cervix.

70. (c) Positive 10% potassium hydroxide test

The clinical presentation—grayish-white, adherent, malodorous (often "fishy") discharge—is pathognomonic for Bacterial Vaginosis (BV). BV is a polymicrobial infection, not from a single organism, characterized by a shift in vaginal flora away from Lactobacillus and toward anaerobes like Gardnerella vaginalis. Diagnosis is made at the bedside using Amsel's criteria (need 3 of 4):

1. Thin, gray-white, homogenous discharge. (Present in the vignette)
2. Vaginal pH > 4.5.
3. Positive "Whiff test" with 10% potassium hydroxide (KOH).
4. Presence of "clue cells" (>20%) on saline wet mount microscopy.

Let's evaluate the options:

(a) Presence of RBCs in vaginal smear: This would suggest bleeding or cervicitis, not BV.

(b) Vaginal pH < 4.5: This is incorrect. A pH < 4.5 is characteristic of a normal (Lactobacillus-dominant) vagina or Candida vaginitis. BV is associated with an alkaline pH > 4.5.

(c) Positive 10% potassium hydroxide test: This is the "Whiff test." Adding a drop of 10% KOH to the vaginal discharge on a slide liberates volatile amines (like putrescine and cadaverine) produced by the anaerobic bacteria. This results in the characteristic "fishy" odor, making the test positive. This is a key bedside diagnostic criterion.

(d) Positive NAAT test: Nucleic Acid Amplification Tests (NAATs) are the gold standard for diagnosing Chlamydia and Gonorrhea, not BV. While commercial NAATs for BV exist, they are not considered a primary "bedside" criterion like the Whiff test or pH measurement.

71. (a) I, II and III

Hysterosalpingography (HSG) is a radiological procedure where contrast dye is injected through the cervix to visualize the contour of the uterine cavity and the patency of the fallopian tubes.

I. Tubal patency assessment following tuboplasty operation: This is a correct indication. HSG is the primary non-surgical method to assess tubal patency. After a surgical procedure to repair the tubes (e.g., tubal reanastomosis after ligation), an HSG is performed to confirm if the repair was successful and the tubes are now open.

II. Diagnosis of uterine synechiae: This is correct. Uterine synechiae (Asherman's syndrome) are bands of scar tissue inside the uterine cavity. On an HSG, these appear as irregular, angular "filling defects" within the contrast-filled cavity.

III. Detection of IUD: This is correct. While ultrasound is the first-line tool to check

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IUD placement, an X-ray or HSG can also be used, especially if the strings are not visible and ultrasound is inconclusive. The HSG can show the IUD's position relative to the uterine cavity and can help identify if it is embedded or has perforated the uterus.

IV. Diagnosis of subserosal fibroid: This is incorrect. HSG only visualizes the inside of the uterus (the cavity). Subserosal fibroids grow on the outside of the uterus. They would not be visible on an HSG unless they were so large that they distorted the entire uterus. In contrast, submucosal fibroids (which bulge into the cavity) would be seen as smooth, rounded filling defects. Ultrasound or MRI is used to diagnose subserosal fibroids.

72. (c) I, III and IV

Endometrial sampling (e.g., via Pipelle biopsy, D&C, or hysteroscopy) is performed to obtain a tissue sample from the uterine lining for histological evaluation.

I. Endometrial tuberculosis: This is a correct indication. In a workup for infertility, especially in endemic areas, an endometrial biopsy can be taken for histopathology (showing granulomas) and culture to diagnose genital tuberculosis.

III. Postmenopausal bleeding: This is an absolute and critical indication. Postmenopausal bleeding is considered endometrial cancer until proven otherwise, and endometrial sampling is mandatory to rule out hyperplasia or malignancy.

IV. Abnormal uterine bleeding (AUB): This is a correct and common indication, particularly in women over 45, women with risk factors for endometrial cancer (e.g., obesity, PCOS), or in cases of persistent AUB that fails to respond to medical management.

II. Endometrial polyp: This is nuanced. An endometrial polyp is a diagnosis often made by ultrasound or hysteroscopy. While the polypectomy (removal of the polyp) itself is a form of sampling (the polyp is sent for histology), the initial sampling is not done for the polyp. Rather, the polyp is a finding that is then removed. More importantly, endometrial sampling techniques like a blind Pipelle biopsy can miss polyps. Therefore, AUB, PMB, and suspected infection (like TB) are indications for performing the procedure, while a polyp is a finding that requires a different, targeted procedure (hysteroscopic resection).

Given the primary indications, I, III, and IV are the strongest and most appropriate answers.

73. (a) Ectopic pregnancy

This is a classic clinical vignette for an ectopic pregnancy, particularly one occurring after tubal ligation.

History of tubal ligation: This is the most significant risk factor. While tubal ligation is highly effective (>99%), when it does fail, the resulting pregnancy is highly likely to be ectopic (up to 50% of post-ligation pregnancies are ectopic). The ligation damages the tube, preventing the fertilized ovum from traveling to the uterus.

Acute abdominal pain and vaginal bleeding: This is the classic triad for ectopic pregnancy (along with amenorrhea, which is implied). The pain is from tubal distension or rupture, and the bleeding is "breakthrough" bleeding from an unstable endometrium.

Right adnexal tenderness: This finding on examination localizes the pain to the adnexa (where the fallopian tube is), consistent with a tubal pregnancy.

Os was closed: This is a key finding. In an incomplete or inevitable abortion (miscarriage), the cervical os would be open. A complete abortion (d) might have a closed os, but the pain and bleeding would typically be subsiding, not acute and severe.

(b) PID: Would usually present with fever, bilateral tenderness, and purulent discharge.

(c) Appendicitis: Would present with peri-umbilical pain migrating to the right lower quadrant (McBurney's point), associated with anorexia, nausea, and fever, not typically vaginal bleeding.

Therefore, acute pain, bleeding, and adnexal tenderness in a woman with a prior tubal ligation is ectopic pregnancy until proven otherwise.

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74. (a) I, II and III

A clinical audit is a systematic process of quality improvement. It involves reviewing clinical performance against explicit criteria (evidence-based standards) and then implementing changes to improve performance. This is often described as the "audit cycle."

I. It can replace the out of date clinical practices with better ones: This is correct. This is the primary goal of an audit. By comparing current practice ("what we are doing") against the best scientific evidence ("what we should be doing"), the audit identifies gaps. The final step of the cycle is implementing changes to close those gaps, thus replacing outdated practices.

II. It is an efficient educational tool: This is correct. The process of setting standards, collecting data, and analyzing results is a powerful educational experience for the entire clinical team, reinforcing best practices and highlighting areas for collective improvement.

III. It should be based on scientific evidences with facts and figures: This is correct. An audit is not a random review; it is a rigorous comparison against a defined standard, which must be derived from the best available scientific evidence (e.g., national guidelines, large clinical trials). The analysis relies on objective data (facts and figures), not anecdotal experience.

IV. It is not labour-intensive: This is incorrect. A well-conducted clinical audit is extremely labour-intensive. It requires careful planning, meticulous data collection from patient records (which can be time-consuming), data analysis, and then the difficult work of implementing and re-evaluating change.

Therefore, statements I, II, and III are correct.

75. (d) II, III and IV

Prognosis in endometrial adenocarcinoma is determined by several factors, including stage, histologic grade, and molecular features.

I. Estrogen and progesterone receptor (ER/PR) positivity: This is a good prognostic factor, not a poor one. ER/Services-positive tumors are typically Type 1 (endometrioid), low-grade, and respond to hormonal influences. Their presence is associated with a more differentiated, less aggressive tumor and a better prognosis. ER/PR negativity is a poor prognostic factor.

II. HER-2/neu gene expression: This is a poor prognostic factor. HER-2/neu overexpression is strongly associated with aggressive, high-grade (Type 2) tumors, particularly uterine papillary serous carcinoma. It is linked to increased proliferation and a worse outcome.

III. Histologic types papillary serous or clear cell carcinoma: This is a poor prognostic factor. These (Type 2) histologies are considered high-grade by definition, regardless of their architectural appearance. They behave much more aggressively than the more common (Type 1) endometrioid adenocarcinoma, with a higher risk of deep invasion, nodal metastasis, and recurrence.

IV. Aneuploid tumours: This is a poor prognostic factor. Aneuploidy (an abnormal number of chromosomes) reflects genomic instability. Flow cytometry to determine DNA ploidy shows that aneuploid tumors are associated with higher grade, advanced stage, and significantly worse survival compared to diploid (normal chromosome number) tumors.

Therefore, II, III, and IV are all poor prognostic factors.

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76. (b) I and II only

The management of uterine leiomyomas (fibroids) is primarily dictated by symptoms. Asymptomatic fibroids, regardless of size, generally do not require intervention.

I. Symptomatic and failed medical management: This is the primary indication for surgery (myomectomy or hysterectomy). Symptoms include heavy menstrual bleeding (menorrhagia) leading to anemia, bulk symptoms (pelvic pain, pressure, urinary frequency), or dyspareunia. If these symptoms are severe and do not respond to medical treatments (like tranexamic acid, hormonal IUDs, or GnRH agonists), surgery is indicated.

II. Size > 12 weeks: This is a relative and classic indication. While size alone is not an absolute reason for surgery if the patient is asymptomatic, a uterus enlarged to the size of a 12-week gestation (i.e., palpable abdominally) is often associated with bulk symptoms. More importantly, rapid growth or a very large size can raise suspicion for a rare malignancy (leiomyosarcoma), and can make future pelvic exams or surgeries more difficult. Thus, it is considered a standard indication for intervention.

III. Pedunculated fibroid: This, by itself, is not an indication for surgery. Pedunculated fibroids (either subserosal or submucosal) are only removed if they are symptomatic. A pedunculated submucosal fibroid can cause severe cramping and bleeding or prolapse through the cervix. A pedunculated subserosal fibroid can undergo torsion, causing acute pain. But the simple presence of a "pedunculated fibroid" without symptoms or complications is not an indication for surgery.

Therefore, the correct indications listed are I and II.

77. (c) GH

The POP-Q (Pelvic Organ Prolapse Quantification) system is a standardized, objective method for describing and staging pelvic organ prolapse. It involves measuring 9 specific points relative to the hymen (defined as 0).

Most measurements (e.g., points Aa, Ba, Ap, Bp, C) are taken twice: once at rest and once with the patient performing a maximal Valsalva maneuver (straining) to demonstrate the maximum extent of the prolapse.

However, three measurements are fixed anatomical landmarks that are measured only at rest, without any straining:

(c) GH (Genital Hiatus): Measured from the middle of the external urethral meatus to the posterior midline of the hymen.

(b) Pb (Perineal Body): Measured from the posterior midline of the hymen to the mid-anal opening.

(a) TVL (Total Vaginal Length): Measured as the greatest depth of the vagina, from the hymen to the vaginal apex (cuff or cervix), after the prolapse has been reduced.

(d) Point D: This represents the location of the posterior fornix (or vaginal cuff post-hysterectomy). It is a measurement of apical prolapse and, like other "point" measurements, its maximum descent is recorded during Valsalva.

The question asks which is measured without straining. Of the options, GH, Pb, and TVL are all measured at rest. Since GH is listed as option (c), it is the correct answer.

78. (d) I, II and IV

The Le Fort operation, or partial colpocleisis, is an obliterative (non-reconstructive) procedure for advanced pelvic organ prolapse (POP). It works by suturing the anterior and posterior vaginal walls together, effectively closing off the majority of the vaginal canal, with small lateral channels left for drainage.

I. Procidentia in old age: This is a correct indication. The procedure is reserved for severe, advanced prolapse (e.g., procidentia, stage III or IV) in elderly women.

II. Unfit for long duration surgery: This is a correct indication. The Le Fort operation is minimally invasive, can be done under regional or local anesthesia, and is significantly faster and associated with less blood loss than reconstructive surgeries (like sacrocolpopexy) or hysterectomy. It is an excellent option for women with significant medical comorbidities who are poor surgical candidates.

IV. Coital function no longer required: This is an absolute prerequisite. Because the procedure obliterates the vaginal canal, vaginal intercourse becomes impossible. The patient must be non-sexually active and have no desire for future coital function.

III. Associated uterine pathology: This is a contraindication, not an indication. Because the uterus is left in place and the vaginal canal is closed, the cervix and uterine cavity become inaccessible for future surveillance (e.g., Pap smears, endometrial biopsies). Therefore, any suspected uterine pathology (like postmenopausal bleeding

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or an abnormal Pap smear) must be ruled out before a Le Fort operation. If pathology is present, a different procedure (e.g., vaginal hysterectomy) is required.

Therefore, I, II, and IV are the correct criteria.

79. (a) vestibule outside the hymen at the junction of the anterior $2/3^{rd}$ and posterior $1/3^{rd}$ in the groove between the hymen and labium minus

The Bartholin's glands (or greater vestibular glands) are a pair of pea-sized glands located in the superficial perineal pouch, posterolateral to the vaginal opening. Their function is to secrete mucus to lubricate the vestibule, especially during sexual arousal.

The duct of each gland, which is about 2 cm long, travels superiorly and medially to open into the vestibule. The vestibule is the area of the vulva enclosed by the labia minora.

Specifically, the opening is located:

1. In the groove between the hymenal ring and the labium minus.
2. At the postero-lateral aspect of the vaginal orifice.
3. This location is classically described as being at the junction of the posterior 1/3rd and anterior 2/3rds of the labium minus (or at the 5 o'clock and 7 o'clock positions relative to the vaginal opening).

Option (a) provides the most precise and complete anatomical description of this location. The other options describe incorrect areas. (b) is too general, (c) describes the gland's location, not the duct's opening, and (d) is incorrect (Skene's glands are periurethral).

80. (a) I, II and III

Amsel's criteria are the clinical diagnostic standard for Bacterial Vaginosis (BV). The diagnosis is made if at least three of the following four criteria are met:

I. Vaginal pH > 4.5: This is correct. The shift in flora from acid-producing Lactobacillus to anaerobes causes the vaginal pH to rise (become more alkaline).

II. Positive Whiff test: This is correct. This test involves adding a drop of 10% potassium hydroxide (KOH) to a sample of the vaginal discharge. A positive test is the release of a "fishy" (amine) odor, produced by the anaerobic bacteria.

III. Presence of clue cells > 20%: This is correct. Clue cells are vaginal epithelial cells that are stippled and covered by bacteria (primarily Gardnerella vaginalis), obscuring the cell borders. They are the most specific sign of BV and are identified on a saline wet mount (microscopy).

IV. Positive bacterial vaginal culture: This is incorrect and is not part of Amsel's criteria. Gardnerella vaginalis can be cultured from the vagina of up to 50% of asymptomatic women (i.e., it is a commensal). Therefore, a positive culture is not diagnostic of the disease (BV), which is a polymicrobial syndrome, not just the presence of one organism. Diagnosis is based on the clinical and microscopic findings, not culture.

Therefore, the three correct criteria are I, II, and III.

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81. (a) I, II and III

The Physical Quality of Life Index (PQLI) was developed by Morris D. Morris in the 1970s as an alternative to using Gross National Product (GNP) or per capita income as the sole measure of a country's development. The PQLI was designed to measure the quality of life or well-being directly, rather than just economic output. It is a composite index calculated by averaging three specific indicators, each scaled from 0 to 100:

I. Infant Mortality Rate (IMR): This is used as a measure of child health, sanitation, and maternal well-being.

II. Life Expectancy at Age One: This was chosen instead of life expectancy at birth to avoid the skewing effect of the infant mortality rate (which is already included) and to better reflect the health and nutritional status of the general population.

III. Literacy Rate: This is used as a measure of education and social development.

IV. Per capita income: This was explicitly excluded. The entire purpose of the PQLI was to create a measure of development that was not dependent on monetary income, as many low-income countries had achieved high social development

(e.g., Sri Lanka, Kerala state in India). The PQLI was a precursor to the more modern Human Development Index (HDI), which does include per capita income.

82. (c) Disease eradication

This question asks to define the different levels of disease prevention and termination.

(a) Disease control: This is the ongoing process of reducing the incidence, prevalence, morbidity, or mortality of a disease to a locally acceptable level. It requires sustained effort. Example: Diarrheal disease control.

(b) Disease elimination: This is a more ambitious goal. It refers to the reduction to zero of the incidence of a specific disease in a defined geographical area (e.g., a country or region). However, the infectious agent may still exist elsewhere in the world, so continued surveillance and intervention are required to prevent re-importation. Example: Polio elimination in the Americas.

(c) Disease eradication: This is the highest, final level, described as an "all-or-none phenomenon." It means the permanent reduction to zero of the worldwide incidence of an infection. It implies that the infectious agent has been completely exterminated in nature and in reservoirs. Once achieved, intervention measures are no longer needed. The only human disease fully eradicated is Smallpox.

(d) Disease surveillance: This is the process of collecting, analyzing, and interpreting health data to guide public health action. It is a tool used for control, elimination, and eradication, not an outcome itself.

The definition given—termination of all transmission by extermination of the agent—is the precise definition of eradication.

83. (c) Management by objectives

The definition provided is a textbook description of Management by Objectives (MBO).

MBO is a management model, popularized by Peter Drucker, that aims to improve the performance of an organization by clearly defining objectives that are agreed upon by both management and employees.

The key features described in the quote are:

1. "Objectives are set forth for different units and subunits": This aligns with the MBO principle of cascading objectives, where the organization's high-level goals are broken down into specific objectives for departments, teams, and individuals.
2. "each of which prepares its own plan of action": This highlights the participative nature of MBO. Subunits and employees are involved in setting their own objectives and determining the best way (plan of action) to achieve them, promoting autonomy and accountability.
3. "usually on a short-term basis": MBO cycles are typically short-term (e.g., quarterly or annually) to allow for regular review, feedback, and realignment of goals.

(a) Input-Output analysis is an economic model that studies the flow of resources between industries.

(b) Personnel management is the general function of managing an organization's workforce (hiring, training, compensation).

(d) Work sampling is a statistical technique used to determine the proportion of time spent by workers on different defined activities.

84. (c) I, II and III

The 73rd Amendment to the Indian Constitution established the three-tier Panchayati Raj system. Let's break down the bodies by level:

1. Village Level:
   - I. Gram Sabha: This is the foundation of the system. It is not an elected body but rather the legislative body of all registered voters residing in the village. It is the general assembly of the village.
   - II. Gram Panchayat: This is the executive body for the village, composed of members elected by the Gram Sabha. The head is the Sarpanch or Pradhan.
   - III. Nyaya Panchayat: This is a village-level judicial body, or "village court," established to adjudicate minor

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civil and criminal cases. Although its implementation varies and has declined, it is functionally a village-level institution.

2. Block Level (Tehsil/Mandal):
   IV. Panchayat Samiti: This is the intermediate body that links the Gram Panchayats to the Zila Parishad. Its members are often the Sarpanchs of the Gram Panchayats within the block, along with other elected members.
3. District Level:
   Zila Parishad (or Zila Panchayat): This is the apex body at the district level.

The question asks which bodies are present at the village level. This includes the Gram Sabha, the Gram Panchayat, and the Nyaya Panchayat.

85. (b) Verification of diagnosis

The investigation of a suspected epidemic follows a standardized, logical sequence of steps.

(b) Verification of diagnosis: This is the first step. Before launching a full-scale investigation, the PHC must confirm that the reported cases are, in fact, the same disease. This involves reviewing clinical and laboratory findings for a sample of the patients. A "cluster" of cases of rash and fever could be measles, but it could also be dengue, chikungunya, chickenpox, or even a non-infectious cause. One must be sure what they are dealing with.

(c) Confirm existence of epidemic: This is the second step. Once the diagnosis is verified, the number of observed cases is compared against the expected or baseline number of cases for that time and place. An epidemic is defined as an occurrence of cases in excess of normal expectancy. This step confirms that the cluster is a true epidemic and not just a seasonal spike or improved reporting.

(d) Defining the population at risk: This step, along with creating a case definition, comes next.

(a) Rapid search for all cases: This (case finding) is a later step, done after the epidemic is confirmed and a case definition is established.

The immediate first action upon hearing reports is to verify if the reports are clinically accurate.

86. (b) Natural experiment

John Snow's work on the 1854 Broad Street cholera outbreak is a foundational event in epidemiology. Snow investigated the outbreak by mapping the cases and observing their distribution. He noted that cases were clustered around the Broad Street pump.

His more definitive study, however, was a (b) Natural experiment. He compared the cholera death rates in two adjacent districts of London that were served by two different water companies. One company, the Southwark & Vauxhall company, drew water from a polluted section of the Thames River (downstream in London). The other, the Lambeth company, had recently moved its intake source upstream to a much cleaner, unpolluted section.

Snow found that the households receiving water from the Southwark & Vauxhall company had a dramatically higher rate of cholera than those receiving water from the Lambeth company. This was a "natural experiment" because the "intervention" (receiving clean vs. polluted water) was not assigned by the investigator (Snow). The populations were otherwise similar, but they were naturally divided into two groups based on their water supply. This comparison provided strong evidence that cholera was transmitted through contaminated water, long before the Vibrio cholerae bacillus was identified.

87. (c) Both I and II

This question requires calculating the sensitivity and specificity from the provided 2x2 table data.

True Positives (TP): Disease present, Test positive = 45

False Negatives (FN): Disease present, Test negative = 5

True Negatives (TN): Disease absent, Test negative = 32,000

False Positives (FP): Disease absent, Test positive = 8,000

Total with Disease (TP + FN) = 50

Total without Disease (TN + FP) = 40,000

Statement I: Sensitivity

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Sensitivity is the ability of the test to correctly identify those with the disease.
Formula: Sensitivity = TP / (TP + FN)
Calculation: Sensitivity = 45 / (45 + 5) = 45 / 50 = 0.90
To express as a percentage: 0.90 * 100 = 90%.
Therefore, Statement I is correct.
Statement II: Specificity
Specificity is the ability of the test to correctly identify those without the disease.
Formula: Specificity = TN / (TN + FP)
Calculation: Specificity = 32,000 / (32,000 + 8,000) = 32,000 / 40,000
Simplifying the fraction: 32/40 = 8/10 = 0.80
To express as a percentage: 0.80 * 100 = 80%.
Therefore, Statement II is correct.
Since both statements are correct, the correct answer is (c).

88. (c) I, II and IV

This question describes a well-known phenomenon in epidemiology called Berkson's bias or admission rate bias. Hospital-based data is a "selected" sample and not representative of the general community population.

I. Mild cases and subclinical cases may be missed: This is correct. Hospital data only includes individuals whose illness is severe enough to seek medical attention and be admitted. The vast majority of mild, asymptomatic, or subclinical cases in the community are missed, leading to an overestimation of disease severity (the "iceberg phenomenon").

II. Population served by a hospital usually cannot be defined: This is correct. The "catchment area" of a hospital is often unknown and variable. People may choose a hospital based on reputation, insurance, or specialty, not just geography. This makes it impossible to calculate true population-based rates (like incidence or prevalence) because the denominator (the total population at risk) is undefined.

IV. Admission policy for cases can vary from hospital to hospital: This is correct. A teaching hospital might only admit complex cases, while a private hospital might have different criteria based on insurance. These varying selection factors (admission policies) mean that the patient populations of two different hospitals are not comparable, further skewing the data.

III. Cost of hospital care is not recorded: This is incorrect. Cost is almost always recorded for billing and administrative purposes. Even if it weren't, this is an issue of administrative data completeness, not a biostatistical reason why the sample is unrepresentative of the population's disease status.

Therefore, I, II, and IV are all valid reasons for this sampling bias.

89. (c) Conjunctival Xerosis

The World Health Organization (WHO) classifies the ocular manifestations of Vitamin A Deficiency (VAD) in a specific order of appearance and severity.

(b) Nyctalopia (Night Blindness) (WHO Classification XN): This is the earliest symptom of VAD. It is a functional impairment caused by a lack of rhodopsin in the retinal rods. However, it is a symptom reported by the patient, not a sign that a clinician can see.

(c) Conjunctival Xerosis (WHO Classification X1A): This is the earliest clinically visible sign. It appears as a dry, rough, "unwettable" patch on the bulbar conjunctiva. The conjunctiva loses its normal transparent, glistening appearance. This is the first sign the examiner can observe.

(a) Bitot's spots (WHO Classification X1B): This sign follows conjunctival xerosis. Bitot's spots are distinct, silvery-gray, triangular, "foamy" or "cheesy" plaques that form on the dry conjunctiva, typically in the temporal quadrant. They are pathognomonic for VAD but appear after the initial dryness (xerosis).

(d) Corneal Xerosis (WHO Classification X2): This is a more severe and later manifestation, where the dryness and dullness spread to the cornea. This is a medical emergency as it quickly progresses to corneal ulceration (X3A/X3B) and keratomalacia (melting of the cornea), leading to blindness.

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The question asks for the first sign that can be clinically seen, which is conjunctival xerosis.

90. (b) Vitamin D

Vitamin D deficiency leads to a failure of mineralization of bone matrix (osteoid). In children, this condition is known as rickets; in adults, it is osteomalacia.

In rickets, the bones are soft, weak, and unable to withstand mechanical stress. This leads to a variety of classic skeletal deformities. One of these is "pigeon chest," or pectus carinatum. This occurs because the soft, pliable ribs are pulled forward by the action of respiratory muscles and the sternum is pushed outward.

Another related deformity, which is actually more common in rickets, is the "rachitic rosary" (beading of the costochondral junctions) and "Harrison's sulcus" (an indentation along the line of diaphragmatic attachment, caused by the pull of the diaphragm on the soft ribs). Pectus carinatum is a well-recognized, though less common, chest deformity associated with rickets.

(a) Vitamin A deficiency causes ocular and skin problems (xerophthalmia, hyperkeratosis).

(c) Vitamin E deficiency causes hemolytic anemia and neurological deficits.

(d) Vitamin K deficiency causes bleeding disorders (coagulopathy).

The skeletal deformities are unique to Vitamin D deficiency.

91. (b) Methionine

A "limiting amino acid" is the essential amino acid found in the lowest concentration in a specific food protein, relative to the amount required for human protein synthesis. Its "limited" presence is the bottleneck that stops protein synthesis once it runs out, even if all other amino acids are abundant.

Plant-based proteins are often "incomplete," meaning they are low in one or more essential amino acids. There is a classic complementary pattern:

1. Cereals (e.g., wheat, rice, corn): These proteins are generally deficient in Lysine and Threonine.
2. Legumes/Pulses (e.g., beans, lentils, peas): These proteins are an excellent source of Lysine, which cereals lack. However, they are typically deficient in the sulfur-containing amino acids, primarily Methionine (and cysteine, which can be synthesized from methionine).

This is the basis for the classic dietary advice to combine grains and legumes (e.g., rice and beans, or Indian dal and rice) to create a "complete" protein profile, where the amino acids from one food (lysine from pulses) compensate for the deficiency in the other (methionine from cereals), and vice-versa. Therefore, methionine is the limiting amino acid in pulses.

92. (a) I, II and III

This question lists several Freudian (ego) defense mechanisms, which are unconscious psychological strategies used to cope with reality and maintain self-image when faced with anxiety, stress, or failure.

I. Rationalization: This is correct. It is the process of finding a logical, "rational" (but false) explanation for a behavior or failure that was actually driven by unacceptable or irrational motives. Example: "I failed the exam, but it's because the teacher hates me" (not because I didn't study).

II. Regression: This is correct. This is a retreat to an earlier, more infantile stage of psychosexual development when faced with stress. Example: An adult who, when under extreme pressure, starts sucking their thumb or curling into a fetal position.

III. Projection: This is correct. This involves attributing one's own unacceptable thoughts, feelings, or motives to another person. Example: A person who is cheating on their spouse constantly accuses their spouse of being unfaithful.

IV. Replacement: This term is incorrect in this context. It is not a standard, recognized Freudian defense mechanism. The concept is likely confused with Displacement, which is the "replacement" of an emotional target. Displacement is shifting impulses from an unacceptable or dangerous target to a safer one. Example: A man who is yelled at by his boss (dangerous target) goes home and kicks his dog (safe target).

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Since "Replacement" is not the correct term, the valid defense mechanisms listed are I, II, and III.

93. (a) I and IV

Coliform organisms (like E. coli) are used as "indicator organisms" for water safety. Their presence does not necessarily cause disease, but it indicates that the water has been contaminated with feces and thus may contain dangerous pathogens (like Salmonella, Shigella, Vibrio cholerae).

The ideal characteristics of an indicator organism are:

I. They are present in great abundance in the human intestine and excreted in great numbers in faeces: This is correct. A good indicator must be consistently present in high numbers in feces so that its detection is reliable. E. coli fits this perfectly.

II. They have lower resistance... and III. They survive lesser than the pathogens: These are incorrect. A good indicator organism must be at least as resistant to disinfection and environmental forces (natural purification) as the pathogens it is meant to indicate. It should survive slightly longer than the pathogens. If the indicator organism died off faster (lower resistance/ lesser survival), you could have a situation where the test is negative for coliforms, but dangerous pathogens are still viable in the water.

IV. They are easily detected by culture methods: This is correct. This is a crucial practical reason. Testing for every possible waterborne pathogen is complex, expensive, and slow. Coliforms, by contrast, are easy, cheap, and relatively fast to culture and quantify (e.g., via MPN or membrane filtration methods).

Therefore, the key reasons are that they are abundant and easy to detect.

94. (d) I and II

This question describes the Weekly Iron and Folic Acid Supplementation (WIFS) programme, a key component of the Rashtriya Kishor Swasthya Karyakram (RKSK) and Anemia Mukt Bharat.

I. It entails supervised weekly administration of 100 mg elemental iron and 500 μg folic acid: This is correct. This is the standard prophylactic dose for the WIFS programme, delivered as a single blue-colored tablet (often called "WIFS-Blue"). This is given to adolescent boys and girls (10-19 years) to prevent iron deficiency anemia.

II. These weekly iron-folic acid supplements are administered by using a fixed day approach: This is correct. To ensure compliance and simplify logistics, the programme is implemented through schools (for in-school adolescents) and Anganwadi centers (for out-of-school adolescents). A specific day of the week (e.g., "WIFS Day," often Monday) is fixed for the supervised administration.

III. It entails supervised administration of Albendazole 400 mg every three months...: This is incorrect. Albendazole 400 mg is indeed a crucial part of the programme for deworming, as helminthic infections are a major cause of anemia. However, the standard protocol is biannual (twice a year, or every 6 months), not every 3 months. This is typically done on National Deworming Day (Feb 10) and a mop-up day (Aug 10).

Therefore, statements I and II are correct, but III is incorrect regarding the frequency.

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95. (a) All states and UTs must reduce API to less than 1 case per 1000 population at risk.

The National Framework for Malaria Elimination in India (NFMEI) 2016-2030 lays out a phased plan to achieve the goal of "zero indigenous cases" by 2030. It sets clear, time-bound milestones.

1. By 2020: All states/UTs (Category 1) achieve zero indigenous cases.
2. By 2022: All states/UTs (Category 2) achieve an Annual Parasite Incidence (API) of < 1 per 1000 population.
3. By 2024: (This is the target missed by option b) All states/UTs must establish fully functional malaria surveillance to track, investigate, and respond to each case (the "T3: Test, Treat, Track" strategy).

4. By 2027: (a) All states and UTs must reduce API to less than 1 case per 1000 population at risk. This is the specific milestone for 2027, signifying that the entire country has achieved "pre-elimination" status.
5. By 2030: (c) Entire country is to have no indigenous cases and no deaths due to malaria. This is the final goal of the framework.
6. After 2030: (d) The process for WHO certification of malaria elimination is initiated after the 2030 goal has been met and sustained for at least 3 consecutive years.

Therefore, the specific target for the year 2027 is (a).

96. (c) 9th day of the month

The Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) is a government initiative launched in 2016 to improve the quality and coverage of Antenatal Care (ANC).

The core component of this program is to provide a comprehensive, high-quality package of ANC services (including examinations, essential investigations like ultrasound, and counseling) to all pregnant women, especially those in their 2nd and 3rd trimesters.

To ensure this service is available and well-publicized, a specific day is designated for this "PMSMA Day." The specified day is the 9th day of every month. On this day, all pregnant women can visit a designated public health facility (PHC, CHC, District Hospital) and receive their assured package of ANC services free of charge. The initiative also encourages volunteer participation from private-sector obstetricians and gynecologists to provide these services at public facilities on this day.

97. (c) 10th percentile

The terms "Small for Date" (SFD) or, more commonly, Small for Gestational Age (SGA) are used to classify newborns based on their birth weight relative to their gestational age, using population-specific growth charts.

The standard international and WHO definition for SGA is a birth weight that falls below the 10th percentile for that specific gestational age and sex.

This is a statistical definition. It means that a baby defined as SGA weighs less than 90% of all babies born at that same gestational age.

It is important to distinguish SGA from Fetal Growth Restriction (FGR).

1. SGA (Small for Gestational Age): A statistical, size-based definition (<10th percentile). Many SGA babies are simply "constitutionally small" and perfectly healthy.
2. FGR (Fetal Growth Restriction): A pathological definition. This refers to a fetus that has failed to achieve its genetic growth potential due to a pathological process (e.g., placental insufficiency). An FGR fetus may or may not be <10th percentile (it could be a baby that should have been at the 90th percentile but is only at the 15th, showing a drop in growth velocity).

However, the most common definition for SGA is, by far, < 10th percentile.

98. (c) 1000

The definition of a stillbirth (or fetal death) varies internationally, which complicates comparisons. The WHO has established a standard definition for this purpose.

A stillbirth is a fetal death that occurs after a certain gestational age or above a certain birth weight.

1. Gestational Age Cutoff: The most common gestational age cutoff used by WHO and many high-income countries is 28 completed weeks of gestation. Fetal deaths before 28 weeks are often classified as miscarriages or late fetal losses.
2. Birth Weight Cutoff: When gestational age is unknown (which is common in low-resource settings), a birth weight cutoff is used as a proxy. The internationally recommended and most widespread birth weight cutoff for defining a stillbirth is 1000 grams (1 kg).

The Stillbirth Rate (SBR) is calculated as:

(Number of fetal deaths with birth weight > 1000 g or gestational age > 28 weeks) / (Total births [live births + stillbirths]) 1000.

Some high-income countries use a lower cutoff (e.g., 20 or 22 weeks, or 500 grams (a)) to capture more fetal losses, but the most widespread international standard for comparison, as specified by the WHO, is 1000 g.

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99. (c) Red

Disaster triage (such as the START - Simple Triage and Rapid Treatment - system) uses a four-color code to categorize victims based on the severity of their injuries and their chance of survival, with the goal of "doing the most good for the most people."

(c) Red (Priority 1 / T1 / Immediate): This category represents the highest priority for treatment. These are victims with life-threatening injuries (e.g., airway obstruction, severe uncontrolled bleeding, shock) that are correctable with immediate, minimal intervention. They will die if not treated immediately.

(d) Yellow (Priority 2 / T2 / Delayed): These victims have serious injuries (e.g., major fractures, moderate burns) but are not currently in immediate danger of death. Their treatment can be delayed for a short time.

(b) Green (Priority 3 / T3 / Minor): These are the "walking wounded." They have minor injuries (e.g., abrasions, minor lacerations) and can wait for treatment, or potentially assist with their own care.

(a) Black (Priority 4 / T4 / Deceased or Expectant): This category is for victims who are either already deceased (apneic, pulseless) or have injuries so catastrophic (e.g., massive head trauma with exposed brain matter) that they are unlikely to survive, even with medical care. Resources are not allocated to this group in a mass casualty incident.

The highest priority for life-saving intervention is Red.

100. (d) I and IV

Ice-Lined Refrigerators (ILRs) are a cornerstone of the vaccine cold chain, especially at PHCs and sub-centers, as they are designed to maintain a stable temperature (+2°C to +8°C) even during long power cuts.

I. These types of refrigerators are top-opening: This is correct. This design is intentional and crucial. Cold air is denser than warm air. When a top-opening lid is lifted, the cold air remains inside, minimizing temperature loss. A front-opening door would allow the cold air to "spill out," rapidly warming the cabinet.

III. The upper part of ILR is cooler compared to the lower part: This is incorrect. The evaporator coil (the cooling element) is in the walls and bottom of the ILR. The coldest part of the refrigerator is the floor, where temperatures can drop below 0°C. The temperature is warmest at the top.

IV. Vaccines should never be kept directly on the floor of the ILR as they can get damaged: This is correct. Because the floor is the coldest part, placing freeze-sensitive vaccines (like DPT, Tt, HepB, IPV) directly on the bottom risks accidental freezing. Freezing irreversibly destroys the potency of these vaccines. All vaccines must be stored in the provided baskets, which keep them suspended away from the floor.

II. Based on the temperature zone, the inside of ILRs can be divided into 3 parts: This is a vague statement and not a defining feature. While there is a temperature gradient, the key functional parts are the ice-lining and the central storage basket.

The two correct and most important statements are I and IV.

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101. (b) Carbohydrates

The average Indian diet, particularly in rural and semi-urban areas, is predominantly cereal-based. Staples like rice, wheat (in the form of roti/chapati), millets (like jowar, bajra), and pulses (dal) form the bulk of daily food consumption. These food groups are primarily rich sources of carbohydrates. While fats (like oils, ghee) are calorically dense ($9\ \text{kcal/g}$) and proteins ($4\ \text{kcal/g}$) are essential building blocks, they are consumed in smaller quantities compared to carbohydrates. In a typical balanced diet, carbohydrates are recommended to provide 50-60% of total energy, but in an average Indian diet, this proportion is often higher, ranging from 60-70%. Proteins contribute about 10-15% of energy, and fats contribute 20-30%. Vitamins are essential micronutrients and do not provide any energy (calories). Therefore, carbohydrates are by far the major contributor to total energy intake.

102. (d) All four

All four statements provided are correct in the context of human nutrition.

I. Essential Amino Acids (EAAs): This statement is the correct definition of an essential amino acid. The human body cannot synthesize them de novo (or cannot synthesize them in sufficient quantity), so they must be supplied by the diet.

II. Non-essential Amino Acids (NEAAs): This is also correct. The term "non-essential" only means that the body can synthesize them, typically from other amino acids or metabolic intermediates. They are still absolutely required as building blocks for the synthesis of tissue proteins and other nitrogen-containing compounds.

III. Biologically Incomplete Protein: This is a correct definition. A protein's biological value is determined by its EAA content. If a protein is low or lacking in one or more EAAs (the "limiting amino acid"), it is considered biologically incomplete because protein synthesis will be halted when the supply of that limiting amino acid runs out.

IV. Animal Proteins vs. Vegetable Proteins: This is correct from a nutritional science perspective. "Superior" refers to higher biological value and completeness. Animal proteins (e.g., egg, milk, meat) contain all EAAs in ratios that are highly suitable for human needs, making them "complete." Most individual vegetable proteins are "incomplete" (e.g., grains are low in lysine, legumes are low in methionine).

103. (b) I, III and IV

The GOBI campaign was a low-cost, high-impact child survival strategy promoted by UNICEF in the 1980s. The acronym GOBI stands for four key pillars of this strategy.

1. G = Growth Monitoring: This is correct. Statement I refers to using growth charts to monitor a child's weight, allowing for early detection of malnutrition and failure to thrive.
2. O = Oral Rehydration Therapy (ORT): This is correct. Statement II refers to the use of Oral Rehydration Salts (ORS) to prevent and treat dehydration caused by diarrhea, which was a leading cause of child mortality.
3. B = Breastfeeding: This is where the question's Statement III is incorrect. The 'B' in GOBI stands for Breastfeeding, promoting exclusive breastfeeding for the first 4-6 months due to its nutritional and immunological benefits. "Better and continuous evaluation" is not the 'B' component.
4. I = Immunization: This is correct. Statement IV refers to protecting children against the six major vaccine-preventable diseases: measles, diphtheria, pertussis (whooping cough), tetanus, polio, and tuberculosis (via BCG).

Therefore, the correct statements are I, II, and IV.

104. (b) 85 dB

This question refers to the Permissible Exposure Limit (PEL) for occupational noise. The most widely accepted international and national standard (including by NIOSH - National Institute for Occupational Safety and Health, and OSHA - Occupational Safety and Health Administration in the US) is 85 dB (A-weighted) as a Time-Weighted Average (TWA) over an 8-hour workday. Exposure to noise levels at or above 85 dB for 8 hours a day, over a prolonged period, is associated with a significant risk of developing permanent, noise-induced hearing loss. For every 3 to 5 dB increase in noise level, the permissible exposure time is halved. For example, exposure at 105 dB (c) would only be permissible for a few minutes. 65 dB (a) is the level of normal conversation, and 125 dB (d) is near the pain threshold and can cause immediate damage.

105. (c) 900 lux

Illumination, measured in lux (lumens per square meter), is critical for visual comfort and productivity. Different tasks require different levels of light to prevent eye strain. According to standards from bodies like the Illuminating Engineering Society (IES), task lighting is categorized by the detail of the work.

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1. 100 lux (a) is generally sufficient for non-critical areas like hallways, corridors, or storage rooms.
2. 200 lux (b) is often considered the minimum for general tasks, but it is not optimal for prolonged reading or computer use.
3. 400 lux (c) (often cited as a range of 300-500 lux) is the standard recommendation for "general office work", which involves tasks like reading, writing, and typical computer use.
4. 900 lux (d) (or higher) is recommended for tasks requiring high precision and detail, such as technical drafting, electronic assembly, or fine-detail inspection.

Thus, 400 lux is the most appropriate answer for general office work.

106. (c) no metabolic effect

This question refers to the direct metabolic effect of fiber on the human body.

1. An anabolic effect (a) is a "building up" process, like protein synthesis.
2. A catabolic effect (b) is a "breaking down" process, like glycolysis, to produce energy.
3. Dietary fiber is, by definition, a group of polysaccharides that cannot be digested by human enzymes in the small intestine. Because fiber is not broken down into simple molecules (like glucose or amino acids) and absorbed into the bloodstream, it cannot be used by the body's cells as a direct energy source or as a building block. Therefore, it has no direct metabolic effect (anabolic or catabolic) on the human host.

Note: Fiber has significant indirect effects. In the large intestine, gut bacteria can ferment soluble fiber into short-chain fatty acids (SCFAs), which are absorbed and used as energy by colonocytes and influence host metabolism. However, this is a bacterial metabolic effect, not a direct human one. Given the options, (c) is the correct answer.

107. (b) I, II and III

Egg protein (specifically, whole egg protein) is often used as the "reference protein" in nutritional science because of its near-perfect profile for human needs.

I. Biological Value (BV): This is correct. BV measures the proportion of absorbed protein that is retained and incorporated into the body's proteins. Egg has a BV of 100 (or very close to it), meaning it is used with maximum efficiency.
II. Digestibility: This is correct. Egg protein has a very high digestibility coefficient, meaning it is easily broken down and its amino acids are readily absorbed.
III. Essential Amino Acids (EAAs): This is correct. The reason its BV is so high is that it is a "complete protein," containing all nine essential amino acids in ratios that are ideal for human protein synthesis.
IV. Calorie Content: This is incorrect. All proteins, regardless of their source (animal or vegetable), provide approximately 4 kcal/gram. Protein is valued for its amino acid content, not its caloric density, which is much lower than that of fat (9 kcal/gram).

Therefore, statements I, II, and III are the reasons for egg protein's "best" status.

108. (b) Silicosis

Silicosis is the occupational lung disease most famously confused with tuberculosis (TB).

1. Radiographic Appearance: Classic silicosis presents on a chest X-ray as multiple, small, rounded opacities (nodules) that are predominantly located in the upper lobes of the lungs.
2. Tuberculosis Appearance: Post-primary (reactivation) tuberculosis also has a strong predilection for the apical and posterior segments of the upper lobes, where it presents as infiltrates, fibrosis, and often cavitation.
3. The Confusion: The shared upper lobe predominance is the primary reason for the diagnostic confusion. Furthermore, advanced silicosis can lead to "progressive massive fibrosis" (PMF), where the small nodules coalesce into large masses, which can mimic the appearance of large tuberculous lesions or lung cancer.
   (a) Anthracosis (coal worker's pneumoconiosis) also affects the upper lobes but is typically less nodular.

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(c) Siderosis (iron dust) is often non-fibrogenic and the opacities can clear after exposure ceases.
(d) Byssinosis (cotton dust) is an obstructive disease with a typically normal X-ray.

109. (c) Crocidolite

All types of asbestos are carcinogenic, but they are not equally pathogenic. Asbestos fibers are divided into two main groups:

1. Serpentine: Contains Chrysolite (d) (white asbestos), which has curly, flexible fibers. This is the most common type used commercially.
2. Amphibole: Contains Amosite (a) (brown asbestos), Anthrophyllite (b), and Crocidolite (c) (blue asbestos). These fibers are straight, stiff, and needle-like.

The amphibole fibers are considered significantly more dangerous than serpentine fibers, particularly in causing mesothelioma, a rare and aggressive cancer of the pleura (lung lining) or peritoneum. Among the amphiboles, Crocidolite (blue asbestos) is known to have the strongest association with mesothelioma. Its fine, needle-like structure is thought to allow it to penetrate deeper into the lung periphery and lodge in the pleura, where it induces chronic inflammation and malignant transformation.

110. (a) Yellow

The Biomedical Waste Management (BMW) Rules, 2016, mandate a strict color-coding system for waste segregation to ensure safe handling and disposal.

1. Yellow: This category is for waste that is primarily disposed of by incineration or deep burial. This includes:
   i. Human Anatomical Waste (e.g., organs, body parts, placenta)
   ii. Soiled Waste (e.g., items contaminated with blood or body fluids, dressings, plaster casts)
   iii. Expired or Discarded Medicines
   iv. Chemical Waste
   v. Microbiology and Biotechnology Waste (e.g., lab cultures, stocks)
2. Red: For contaminated recyclable waste (e.g., plastics like IV tubes, catheters, gloves).
3. White (Translucent): For sharps (e.g., needles, scalpels, blades).
4. Blue: For contaminated glassware (e.g., vials, ampoules).
5. Black (d) is now typically used for general, non-infectious municipal waste.

Therefore, human anatomical waste must be segregated into yellow bags.

111. (c) I, II and III

This question differentiates between two important indices of thermal comfort.

1. The original Effective Temperature (ET) scale was an empirical index that combined three environmental factors into a single value: dry-bulb air temperature, (II) humidity, and (I) air velocity.
2. The limitation of the ET scale was that it did not account for heat gained or lost by the body through radiation.
3. The 'Corrected Effective Temperature' (CET) was developed to "correct" this omission. It integrates the same three factors as ET (air temperature, humidity, and air velocity) but also includes the effect of (III) mean radiant heat. It measures this by using a globe thermometer, which is sensitive to radiant heat from surrounding surfaces (like the sun, hot machinery, or cold walls).

Sweat rate (IV) is a physiological response to heat, not an environmental parameter used in the calculation of the CET index itself.

Therefore, the CET index deals with factors I, II, and III.

112. (a) DPT up to 7 years of age and OPV up to 5 years of age

This question tests the catch-up vaccination guidelines under India's Universal Immunization Programme (UIP).

1. OPV (Oral Polio Vaccine): OPV can be administered to any child up to the age of 5 years (or 59 months). This aligns with the target age group for Pulse Polio campaigns. After 5 years, the risk of wild poliovirus infection is considered minimal.

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2. DPT (Diphtheria-Pertussis-Tetanus): The DPT vaccine contains the whole-cell pertussis (wP) component. This component is associated with an increased risk of adverse events (like febrile seizures) as children get older. Therefore, the DPT vaccine is not given after the 7th birthday (i.e., it can be given up to 6 years, 11 months, and 29 days). Children older than 7 who require immunization receive the Tetanus-diphtheria (Td) vaccine, which has a reduced dose of the diphtheria toxoid and no pertussis component.

Thus, the correct catch-up schedule limits are DPT up to 7 years and OPV up to 5 years.

113. (a) 6 days

This is a standard protocol under International Health Regulations (IHR).

1. A yellow fever 'receptive' area is a country that does not have yellow fever but does have the Aedes aegypti mosquito vector, meaning a local outbreak could start if the virus were introduced (India is a receptive area).
2. The quarantine period is based on the incubation period of the disease. The incubation period for yellow fever is 3 to 6 days.
3. An unvaccinated traveller is considered a risk because they could be incubating the disease. They are placed in quarantine for the maximum duration of the incubation period to see if they become ill.

Therefore, the traveller must be isolated for 6 days from the date of last possible exposure (i.e., leaving the endemic area). The isolation must be in a "mosquito-proof ward" to prevent any local Aedes mosquito from biting them and acquiring the virus, which would then start a local transmission cycle.

114. (c) 91 days

The Employees' State Insurance (ESI) Act, 1948, provides a comprehensive social security scheme. One of its key provisions is the Sickness Benefit, which is a periodic cash payment made to an insured employee during a period of certified sickness. This benefit is intended to compensate for the loss of wages.

Under the Act, the standard Sickness Benefit is payable for a maximum period of 91 days (which is 13 weeks, or one-quarter of a year) in any continuous period of 365 days or, more precisely, in two consecutive benefit periods.

Note: There is also an "Extended Sickness Benefit" for 34 specified long-term diseases (e.g., tuberculosis, cancer), which can be paid for a much longer duration (up to 2 years), but the standard benefit is 91 days.

115. (b) II, III and IV

Let's analyze each statement about Wernicke's encephalopathy:

I. It is caused by niacin deficiency: This is incorrect. Wernicke's encephalopathy is a neurological emergency caused by a severe deficiency of Thiamine (Vitamin B_1). Niacin (Vitamin B_3) deficiency causes Pellagra.

II. It is often seen in alcoholics: This is correct. Chronic alcoholism is the most common cause in the developed world because it leads to poor nutritional intake, impaired thiamine absorption, and reduced hepatic storage.

III. Ophthalmoplegia, polyneuritis and ataxia are some of its characteristic features: This is correct. The classic triad of Wernicke's is (1) ocular signs (ophthalmoplegia, nystagmus), (2) cerebellar dysfunction (ataxia), and (3) global confusion. Polyneuritis (peripheral neuropathy) is also a classic manifestation of thiamine deficiency (known as "dry beriberi") and frequently co-exists with the central nervous system signs.

IV. It occurs occasionally in people who fast: This is correct. While alcoholism is the most common cause, Wernicke's can be precipitated by any condition that leads to severe thiamine depletion, including prolonged fasting, starvation, hyperemesis gravidarum, or malabsorption syndromes.

Therefore, statements II, III, and IV are correct.

116. (b) Mechanical transmission

Vector-borne transmission can be biological or mechanical.

Biological transmission (a, c, d) involves the pathogen undergoing a change within the vector. This can be:

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(a) Propagative: The pathogen multiplies (e.g., plague bacilli in fleas).
(d) Cyclo-developmental: The pathogen changes its life stage but doesn't multiply (e.g., filarial worm in mosquitoes).
(c) Cyclo-propagative: The pathogen multiplies and changes its life stage (e.g., malaria parasite in mosquitoes).
(b) Mechanical transmission: This is a passive process. The vector (the housefly) simply picks up the infectious agent (e.g., Shigella, E. coli) on its body parts (feet, mouthparts) from a source (like feces) and physically carries it to a new location (like food). The pathogen does not multiply or develop inside the fly. This is the most common way houseflies transmit diseases like diarrhea and dysentery.

117. (d) Weight for height

This question asks for the best indicator of current nutritional status in a 7-year-old.
(a) Birth weight: This is an indicator of intrauterine growth and maternal health, not the child's current status at 7 years.
(b) Mid upper arm circumference (MUAC): This is a very effective tool, but it is primarily used to screen for acute malnutrition in children aged 6 months to 59 months (i.e., under 5).
(c) Head circumference: This is a measure of brain growth and is only a useful indicator in the first 2-3 years of life. It is not a nutritional indicator at age 7.
(d) Weight for height: This is the most appropriate indicator for this age group. This index compares a child's weight to the median weight of children of the same height. A low weight-for-height (below -2 SD) indicates wasting, or acute malnutrition. This means the child is too thin for their height, reflecting a recent and severe process of weight loss or failure to gain weight. It is the best measure of current nutritional status. (In contrast, height-for-age measures stunting, or chronic malnutrition).

118. (c) I, III and IV only

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Let's analyze the statements about the Home Based Newborn Care (HBNC) program, a key initiative under the National Health Mission (NHM).
I. Early detection and special care of pre-term newborns...: This is correct. A major objective is to identify high-risk newborns, including pre-term and low-birth-weight babies, for special care and timely referral if needed.
II. ANM is the main person involved...: This is incorrect. The "main person" responsible for delivering the HBNC package is the ASHA (Accredited Social Health Activist). The ASHA is trained to conduct a prescribed number of home visits to provide this care. The ANM (Auxiliary Nurse Midwife) is the skilled provider at the sub-center and acts as a supervisor to the ASHA and the link for referrals, but the ASHA is the frontline delivery person.
III. Supporting the family for adoption of healthy practices...: This is correct. This is a core component of HBNC, including promoting exclusive breastfeeding, thermal care (Kangaroo Mother Care), hygiene (handwashing, cord care), and identifying danger signs.
IV. The primary aim... is to improve newborn survival: This is correct. The overarching goal of the entire program is to reduce neonatal mortality by providing essential care at home during the critical first 42 days of life.

Therefore, statements I, III, and IV are correct.

119. (b) I, II and IV

A "recessive, sex-linked trait" refers to an X-linked recessive disorder. This means the gene is on the X chromosome and affects males (XY) predominantly, while females (XX) are typically carriers.
I. Retinitis pigmentosa: This condition is genetically heterogeneous. While autosomal dominant and autosomal recessive forms exist, a well-recognized X-linked recessive form also occurs.
II. Colour blindness: Red-green colour blindness is a classic example of an X-linked recessive trait. The genes for the

red and green opsins are located on the X chromosome.

III. Cystic fibrosis: This is incorrect. Cystic fibrosis is the classic example of an Autosomal Recessive disorder, caused by mutations in the CFTR gene on chromosome 7. It is not sex-linked.

IV. Duchenne muscular dystrophy: This is another classic example of an X-linked recessive disorder, caused by a mutation in the dystrophin gene on the X chromosome.

Since Cystic fibrosis (III) is definitively not sex-linked, any option containing it is wrong. This eliminates (a), (c), and (d). The correct answer is (b), which includes the two classic examples (II, IV) and one heterogeneous condition (I) that has an X-linked form.

120. (d) Suraksha Clinic

The National AIDS Control Organisation (NACO) provides services for Sexually Transmitted Infections (STIs) and Reproductive Tract Infections (RTIs) through a network of designated clinics, which are integrated into government healthcare facilities (like medical colleges and district hospitals).

The brand name for these designated STI/RTI clinics is "Suraksha Clinic" (Protection Clinic). These clinics provide comprehensive services, including syndromic case management (SCM), counseling, free medicines (in color-coded kits), and linkage to HIV testing (ICTC) and treatment (ART) services.

The other options are brand names for contraceptives provided by the government:

(a) Antara: Injectable contraceptive (DMPA).

(b) Chhaya: Non-hormonal, once-a-week oral contraceptive pill (Ormeloxifene/Saheli).

(c) Sathi: A popular brand of government-provided condoms.

END

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QUESTION PAPER 2024

1. Which of the following are risk factors for wound infection?
   1. Malnutrition
   2. Poor perfusion
   3. Antibodies
   4. Foreign body material

   Select the correct answer using the code given below.
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

2. Which types of cancer are associated with exposure to ionizing radiation?
   1. Leukaemia
   2. Lung cancer
   3. Breast cancer
   4. Lymphoma

   Select the correct answer using the code given below.
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

3. Which of the following are correct regarding Li-Fraumeni syndrome?
   1. It has autosomal dominant inheritance and is associated with P53 gene
   2. It has autosomal recessive inheritance and is associated with P53 gene
   3. It is associated with an increased risk of sarcomas and leukaemia
   4. It is associated with an increased risk of brain tumours and osteo-sarcomas

   Select the answer using the code given below.
   (a) 2, 3 and 4
   (b) 1, 3 and 4
   (c) 1 and 4 only
   (d) 1 and 3 only

4. A 48-year-old smoker presents to the OPD with complaints of cramping pain in both the calves on walking to about 100–150 metres. The pain is relieved on taking rest for about 2–3 minutes and the patient is able to walk for some more distance again before the pain appears. This presentation is suggestive of
   (a) muscular fatigue
   (b) osteoarthritis of the knee
   (c) intermittent claudication
   (d) neurogenic claudication

5. A midline neck swelling just below the hyoid bone and managed by Sistrunk's operation leads to postoperative need for thyroxine replacement. The most likely diagnosis is
   (a) lateral aberrant thyroid
   (b) thyroglossal cyst
   (c) solitary thyroid nodule
   (d) thyroglossal cyst with only functioning thyroid tissue

6. A 40-year-old smoker presents with soreness of tongue since last 2 months. On examination, it is found that the oral hygiene is poor and there is a white plaque over the lateral border of the tongue. What is the next step in the management of this patient?
   (a) Oral vitamin C supplementation
   (b) Oral antifungal treatment
   (c) Edge biopsy of the lesion
   (d) Local topical cauterization

7. Consider the following causes of visual loss :
   1. Obstruction of the central retinal artery
   2. Vitreous and retinal haemorrhage
   3. Cataract
   4. Retinal detachment

   Which of the above causes are associated with acute visual loss in a patient?
   (a) 1, 2 and 3
   (b) 1, 3 and 4
   (c) 1, 2 and 4

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(d) 2, 3 and 4

8. A 60-year-old lady presents with a recent onset increase in a long standing swelling on the front of the neck. The swelling, which was small, had been present since last 30 years, but has now increased to more than twice the size in the last 2 months. On examination, the swelling is firm to hard in consistency and moves with deglutition. What is the most likely cause of this clinical presentation?
(a) Cystic degeneration
(b) Haemorrhage
(c) Malignant transformation
(d) Myxomatous transformation

9. Which of the following chromosomal abnormalities are associated with brain tumours?
1. Neurofibromatosis type 1
2. Neurofibromatosis type 2
3. Peutz-Jeghers syndrome
4. Hereditary nonpolyposis colorectal cancer
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

10. Which one of the following is correct regarding 'witch's milk'?
(a) It is seen in full-term infants.
(b) It is seen only in preterm infants.
(c) It is caused by stimulation of foetal breast by progesterone.
(d) It is caused by stimulation of foetal breast by calcitonin.

11. Which of the following statements are correct regarding Barrett's oesophagus?
1. It is a metaplastic change.
2. It is a risk factor for development of adenocarcinoma.
3. Ingestion of NSAIDs is the aetiological factor for its development.
4. Endoscopic mucosal resection is an effective treatment.
Select the answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

12. Which among the following are complications of liver trauma?
1. Liver abscess
2. Biliary fistula
3. Portal thrombosis
4. Liver failure
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

13. Which of the following are local complications of acute pancreatitis?
1. Pseudocyst
2. Pleural effusion
3. Ileus
4. Acute fluid collection
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

14. Which of the following are risk factors for the development of pancreatic cancer?
1. Cigarette smoking
2. Diabetes mellitus
3. Caucasian ethnicity
4. Male gender
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

15. Which of the following are metabolic causes of splenic enlargement?
(a) Rickets and Still's disease

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(b) Amyloid and Gaucher's disease
(c) Porphyria and Felty's syndrome
(d) Myelofibrosis and Weil's disease

16. Which one of the following statements is correct about mesenteric cysts?
(a) It occurs most commonly in children less than 18 years of age.
(b) It is more common in males as compared to females.
(c) It presents most commonly as a painless abdominal swelling.
(d) Percutaneous aspiration with injection of sclerosant is the preferred treatment option.

17. Which of the following are features of umbilical hernia in adults?
1. Patients are commonly overweight with a thinned and attenuated midline raphe.
2. Most patients complain of pain due to tissue tension.
3. Men are affected more commonly than women.
4. Hernia repair can be done by the technique described by Mayo.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

18. What is the most common cause of perforation of the oesophagus?
(a) Barotrauma
(b) Mediastinitis
(c) Iatrogenic infection
(d) Malignancy

19. Which of the following are stages of damage control surgery?
1. Patient's selection
2. Control of haemorrhage
3. Resuscitation in ICU
4. Preventive surgery

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

20. Which of the following statements are correct regarding renal cell carcinoma?
1. It arises from the epithelium of the proximal convoluted tubule.
2. It has a female preponderance.
3. Major subtypes are clear cell, papillary and chromophobe.
4. Surgery is the mainstay of treatment for organ-confined disease.

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

21. Which of the following are features of autosomal dominant polycystic kidney disease?
1. Cyst may also occur in liver, pancreas and arachnoid membrane.
2. Most commonly manifests between 20–30 years of age.
3. Clinical manifestations are renal and extrarenal.
4. Men tend to progress to renal failure more rapidly than women.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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22. Extracorporeal Shock Wave Lithotripsy (ESWL) is most commonly used for the treatment of
(a) gallbladder stones
(b) urinary tract stones
(c) salivary gland stones
(d) abdominal stony-hard tumour

23. Consider the following clinical features :
1. Raised ICP
2. Seizures
3. Focal deficit

4. Headache

Which of the above clinical features are related to most brain tumours?

(a) 1, 2, 3 and 4
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 2, 3 and 4 only

24. The most common type of brain tumours associated with neurofibromatosis type 1 brain tumour syndrome is

(a) astrocytoma
(b) acoustic neuroma
(c) meningioma
(d) medulloblastoma

25. Which of the following are correct for herniation via foramen of Morgagni?

1. It occurs posteriorly in chest.
2. Transverse colon is the commonest content.
3. Defect is between sternal and costal attachments.
4. It is a type of congenital hernia.

Select the answer using the code given below.

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

26. A 40-year-old lady complains of progressive deformities of her hands and fingers associated with stiffness which is present in both the hands and improves as the day progresses. On examination, there is symmetrical involvement of hands and fingers of both the upper limbs with flexion and ulnar deviation at the metacarpophalangeal joints. What is the most likely diagnosis in this lady?

(a) Osteoarthritis
(b) Ankylosing spondylitis
(c) Rheumatoid arthritis
(d) Tenosynovitis

27. A 52-year-old female complains of increasing pain in the right shoulder. She is also finding it increasingly difficult to do overhead abduction of the affected joint. She had been diagnosed as a diabetic 20 years back and is on treatment since then. What is the most likely cause of her clinical condition?

(a) Rotator cuff tear
(b) Frozen shoulder
(c) Bacterial arthritis
(d) Osteoarthritis

28. A 20-year-old girl presents to the OPD with complaints of a progressively increasing swelling on the dorsum of the left wrist. The swelling is cystic and nontender on examination and becomes more prominent on plantar flexion of the wrist. The swelling is 2 cm × 1 cm in size. What is the likely diagnosis in this case?

(a) Ganglion cyst
(b) Sebaceous cyst
(c) Dermoid cyst
(d) Epidermoid cyst

29. Upper motor neuron lesions are characterized by which of the following?

1. Increased tone spasticity
2. Hyperreflexia
3. Absent plantar response
4. Motor weakness

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

30. A 56-year-old female has been diagnosed with gallstones and is undergoing a preanesthesia checkup. She has been a diabetic since last 15 years, but sugar levels are within the limits. Which category of physical status does she fit into?

(a) ASA 4
(b) ASA 3
(c) ASA 2
(d) ASA 1

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31. A 30-year-old road traffic accident victim is being taken up for emergency laparotomy for haemoperitoneum and suspected multiorgan trauma. Which one of the following will be an indication for performing damage control surgery?
(a) Blood pressure < 100 mm Hg
(b) Acidosis with pH < 7·32
(c) Hypothermia < 36 °C
(d) Coagulopathy

32. Consider the following:
1. Pain relief
2. Prevention of infection
3. Anaesthesia
4. Restoration of anatomy

Which of the features given above are benefits of fracture treatment?
(a) 1, 3 and 4
(b) 1, 2 and 3
(c) 1, 2 and 4
(d) 2, 3 and 4

33. A 30-year-old motorbike rider is brought to the emergency with history of a road traffic accident and altered consciousness. On secondary survey, the doctor notices presence of a bruise over the left mastoid process. The finding indicates
(a) fracture of mastoid process
(b) injury to the external auditory meatus
(c) fracture of the skull base
(d) soft tissue injury to the neck

34. Hangman's fracture is
(a) traumatic spondylolisthesis of atlas vertebra (C_1)
(b) traumatic spondylolisthesis of axis vertebra (C_2)
(c) traumatic spondylolisthesis of thoracic vertebra (T_1)
(d) traumatic spondylolisthesis of lumbar vertebra (L_1)

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35. Which of the following are correct in respect of Systemic Inflammatory Response Syndrome (SIRS)?
1. It is caused by the release of lipopolysaccharide endotoxin from dying E. coli bacteria.
2. It is same as bacteraemia.
3. It results in Multiple Organ Dysfunction Syndrome (MODS).
4. White cell counts of more than 12×10^9 / litre are present.

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

36. A surgeon is about to start a laparoscopic procedure on a patient. The floor nurse asks the surgeon about the identity of the patient, site of the procedure to be performed and any anticipated critical events during the surgery. These questions are a part of the
(a) universal precautions checklist
(b) nurses safety checklist
(c) MCI patient safety checklist
(d) WHO surgical safety checklist

37. Which of the following are correct for managing hypertrophic scars?
1. Silicone gel sheeting
2. Intralesional steroid injections
3. Vitamin A gel applications
4. Laser treatment

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

38. Which of the following are approximate daily requirements of the common electrolytes in an adult?
1. Sodium 50–90 mM/day
2. Calcium 1 mM/day
3. Potassium 50 mM/day
4. Magnesium 1 mM/day

Select the correct answer using the code given

below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

39. Distributive shock is described by which of the following patterns of cardiovascular responses?
1. Vasodilation
2. Reduced peripheral vascular resistance
3. Inadequate 'afterload'
4. Low cardiac output

Select the correct answer using the code given below.
(a) 1, 2 and 4
(b) 1, 3 and 4
(c) 2, 3 and 4
(d) 1, 2 and 3

40. The best measure of organ perfusion and the best monitor of adequacy of shock therapy is
(a) central venous pressure
(b) pulmonary wedge pressure
(c) urine output
(d) restoring blood pressure/pulse vital parameters

41. Which one of the following statements is correct regarding foetal physiology?
(a) Haematopoiesis is demonstrated first in the yolk sac by 14th day.
(b) Meconium appears at 16 weeks.
(c) Breathing movements are identified at 26 weeks.
(d) Foetal pancreas secretes insulin as early as 20 weeks.

42. Which of the following are advantages of state of haemodilution during pregnancy?
1. Optimum gaseous exchange between maternal and foetal circulation due to decreased blood viscosity
2. Protection against adverse effect of supine and erect posture
3. Protection against adverse effect of blood loss during delivery

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

43. Consider the following statements regarding oligohydramnios :
1. It is defined on USG when maximum vertical pocket of liquor is less than 5 cm.
2. It is defined on USG when AFI is less than 5 cm.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

44. Which of the following are correct about endocrine changes in normal pregnancy?
1. Increase in levels of maternal serum iodine
2. Increase in serum levels of Corticotropin-Releasing Hormone (CRH)
3. Increase in serum levels of aldosterone
4. Increase in serum levels of ACTH

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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45. Which of the following features are correct regarding onset of true labour?
1. Regular uterine contractions
2. Progressive cervical dilation and effacement
3. Presence of show
4. Labour and delivery are synonymous

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

46. According to the WHO Intrapartum Care Guidelines, 2018, the active phase of labour starts from what dilation of cervix?
(a) 3 cm

(b) 4 cm
(c) 5 cm
(d) 6 cm

47. The diameter of engagement of foetal skull in marked deflexion is
(a) occipitofrontal diameter
(b) suboccipitofrontal diameter
(c) mentovertical diameter
(d) suboccipitobregmatic diameter

48. Onset of labour is initiated by which of the following?
1. Uterine distension
2. Increased CRH and ACTH from foetal hypothalamic-pituitary-adrenal axis
3. Increased level of progesterone immediately before labour
4. Increased synthesis of myometrial receptors for oxytocin due to effect of oestrogen

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

49. A 30-year-old female P_2L_2 had a forceps delivery 2 days back. There was injury to head of baby resulting in collection of blood in soft tissue between pericranium and flat bone of skull, limited by suture line. What is the probable diagnosis?
(a) Caput succedaneum
(b) Intraventricular haemorrhage
(c) Cephalohaematoma
(d) Subgaleal haemorrhage

50. Which of the following are correct regarding pathological findings of placenta accreta?
1. Absence of decidua basalis
2. Absence of Nitabuch's fibrinoid layer
3. Loss of normal hypoechoic retroplacental myometrial zone in ultrasonography

Select the answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

51. Which of the following statements are correct regarding peripartum cardiomyopathy?
1. It is usually seen in multiparous women.
2. Echocardiography shows ejection fraction less than 45%.
3. ACE inhibitors are contraindicated.
4. History of prior heart disease is mostly present.

Select the answer using the code given below.
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 3 and 4 only
(d) 1, 3 and 4

52. Mrs. A, who is 9 months pregnant, presents to the labour room with complaints of severe pain in abdomen and vaginal bleeding for 30 minutes. She is 2nd gravida (producing second child) and delivered her first child 2 years back by caesarean delivery. On examination, she has scar tenderness, vaginal bleeding and haematuria. On CTG, she has an abnormal FHR tracing. What is her likely clinical diagnosis?
(a) Urinary tract infection
(b) Scar rupture/dehiscence during labour
(c) Labour pain
(d) Rupture of urinary bladder

53. A 28-year-old female $G_2P_1L_1$ with history of previous caesarean presents to the gynaecology emergency in labour. On examination, she is hypotensive, foetal heart sounds are absent and foetal parts are easily palpable. What is her diagnosis?
(a) Oligohydramnios
(b) Abruptio placentae
(c) Uterine rupture
(d) Hydatidiform mole

54. A 24-year-old primigravida comes to ANC clinic at 8 months amenorrhoea. Her BP is found to be 160/100 mm Hg. Lab findings reveal thrombocytopenia, increased SGOT/SGPT and LDH. What is her diagnosis?
(a) Obstetric cholestasis

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(b) Hepatitis B
(c) HELLP syndrome
(d) Eclampsia

55. A patient, who is 2 months pregnant, reports to a hospital with complaints of increased vaginal bleeding and pain in lower abdomen. Internal examination reveals dilated internal os of cervix and products of conception are felt through it. What is her likely clinical diagnosis?
(a) Threatened abortion
(b) Inevitable abortion
(c) Septic abortion
(d) Incomplete abortion

56. Which one of the following is a common pathology associated with ureteric injury while performing surgical procedure of abdominal hysterectomy?
(a) Pelvic endometriosis
(b) Adenomyosis
(c) Hydrosalpinx
(d) Ovarian teratoma

57. Which of the following are correct regarding pathology of stress urinary incontinence?
1. Hypermobility of urethra
2. Ascend of bladder neck and proximal urethra above pelvic diaphragm
3. Lowered urethral pressure
4. Increased detrusor activity

Select the answer using the code given below.
(a) 1 and 2
(b) 1 and 3
(c) 2 and 4
(d) 3 and 4

58. Which of the following operative procedures is/are confirmatory for the diagnosis of bicornuate uterus?
(a) Dilation with curettages
(b) Hysteroscopy
(c) Hysteroscopy and laparoscopy
(d) Hysterectomy

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59. Which of the following are correct regarding pelvic cellular tissue?
1. It supports the pelvic organs.
2. It forms protective sheath for blood vessels and terminal part of ureter.
3. It prevents infection to be spread out of pelvis.
4. Marked hypertrophy of pelvic cellular tissue occurs in pregnancy.

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

60. Which of the following are correct regarding androgen insensitivity syndrome?
1. Inherited as X-linked recessive disorder
2. Karyotype is 46 XXY
3. It is also called testicular feminization
4. Confirmation of diagnosis by gonadal biopsy

Select the answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

61. Which of the following are useful investigations for diagnosis of unresponsive endometrium as a cause of primary amenorrhoea?
1. Karyotype
2. Progesterone challenge test
3. Hormonal studies
4. Hysterosalpingography

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

62. A 16-year-old girl with primary amenorrhoea presents to the gynaecology OPD for evaluation. She has normal secondary sexual characters. Her karyotype is 46,XX and ultrasound reveals normal ovaries and tubes but absent uterus. What is her clinical diagnosis?
(a) Androgen insensitivity syndrome
(b) Turner syndrome
(c) Mayer-Rokitansky-Küster-Hauser syndrome
(d) Primary ovarian failure

63. A 25-year-old female comes to the gynaecology OPD for evaluation of secondary amenorrhoea. She gives history of previous dilatation and curettage, and her FSH levels are 8 IU/L. The probable cause of amenorrhoea is
(a) Sheehan syndrome
(b) Asherman syndrome
(c) Premature ovarian failure
(d) Incomplete abortion

64. Which of the following criteria are required to be fulfilled for hospitalization in a case of pelvic inflammatory disease?
1. Coexisting pregnancy
2. Mild fever and pain responding well to antibiotics
3. Suspected tubo-ovarian abscess
4. Coexistent HIV infection

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

65. A young female presented with complaints of lower abdominal pain, vaginal discharge, history of IUD use for last 3–4 years. On examination, the patient had fever, adnexal/cervical motion tenderness and increased ESR and C-reactive protein. What is the probable clinical diagnosis?
(a) Ectopic pregnancy
(b) Acute appendicitis
(c) Diverticulitis
(d) Acute PID

66. Which of the following are risk factors for Pelvic Inflammatory Disease (PID)?
1. Use of contraceptive pills
2. IUD use
3. Genetic predisposition
4. Sexually active teenagers

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

67. Which of the following are symptoms of genital tuberculosis?
1. Postmenopausal bleeding
2. Infertility
3. Chronic pelvic pain
4. Oligomenorrhoea

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

68. Which one of the following is correct regarding choriocarcinoma?
(a) Vaginal bleeding is the commonest presenting symptom
(b) About 20–30% of patients with molar pregnancies develop choriocarcinoma
(c) Primary site of involvement is fallopian tube
(d) Highly resistant tumour to chemotherapy

69. Which of the following are favourable factors in prognosis of ovarian malignancy?
1. Older age group
2. Well-differentiated tumour
3. Smaller tumour volume
4. Absence of ascites

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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70. Which one of the following drugs is most effective in the treatment of gestational trophoblastic neoplasia?
(a) Cisplatin
(b) Methotrexate
(c) Gemcitabine
(d) None of the above

71. A 48-year-old female underwent total hysterectomy with bilateral salpingo-oophorectomy. The surgical specimen revealed solid ovarian tumour and histology revealed thecoma-fibroma. Which one of the following is the most appropriate statement regarding this condition?
(a) 20% of such tumours are bilateral.
(b) Endometrial hyperplasia is often associated.
(c) It is always associated with gross ascites.
(d) It is derived from germ cells.

72. In POPQ classification for uterovaginal prolapse, the only measurement done after reducing the prolapse is
(a) genital hiatus
(b) point C
(c) point D
(d) total vaginal length

73. Which of the following are essential steps of Fothergill's operation?
1. Laparoscopic or vaginal ligation
2. Amputation of cervix
3. Plication of Mackenrodt's ligaments in front of cervix
4. Ant colporrhaphy

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

74. Which of the following are indications of cold knife conization?
1. Inconsistent finding colposcopy, cytology and directed biopsy
2. Persistent CIN-1 lesion in women willing for future fertility
3. Carcinoma in situ
4. Unsatisfactory colposcopic finding where margin of lesion is not visible

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

75. Which of the following are factors for poor outcome following tuboplasty?
1. Dense pelvic adhesions
2. Length of reconstructed tube less than 8 cm
3. Bilateral hydrosalpinx
4. Reversal after 5 years of sterilization procedure

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

76. Ulipristal acetate (progesterone receptor modulator) should not be prescribed as emergency contraceptive in women with
(a) glaucoma
(b) liver dysfunction
(c) kidney failure
(d) coagulopathy

77. Injectable medroxyprogesterone IP 150 mg/mL contraceptive injection is available in Family Health Programme of the Government of India under the name
(a) Saheli
(b) Sayana Press
(c) Antara
(d) Sahiba

78. Which of the following are major complications of oral pills?
1. Cholestasis jaundice
2. Chloasma and acne

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3. Venous thromboembolism
4. Breast cancer

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

79. Which of the following conditions are indications of removal of intrauterine device?

1. Persistent irregular uterine bleeding
2. Perforation of uterus
3. Pyelonephritis
4. Pregnancy with device in situ

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

80. A 25-year-old newly married female on liver enzyme inducers is requesting contraceptive advice in family planning clinic. Which of the following would be the most reliable method of contraception for her?

(a) Combined oral contraceptive pill
(b) Male condom
(c) Diaphragm
(d) Depo-Provera injection

81. As per the Open Vial Policy, partially used multidose vials of which of the following vaccines can be used over more than one immunization session?

1. BCG vaccine
2. DPT vaccine
3. Hepatitis B vaccine
4. Measles vaccine

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 1, 3 and 4

82. The statement, 'Health is a dynamic equilibrium between man and environment and disease a maladjustment of the human organism to environment' explains which one of the following concepts of health?

(a) Biomedical
(b) Ecological
(c) Psychosocial
(d) Holistic

83. A table shows three broad components under which the objectives of the National Health Policy, 2017 can be grouped, along with an example of goal/objective under that component:

1. Health status & programme impact → Increase life expectancy at birth from 67.5 to 70 years by 2025
2. Health systems performance → More than 90% of the newborn are fully immunized by one year of age by 2025
3. Health systems strengthening → Increase State sector health spending to more than 8% of their budget by 2020

How many of the pairs given above are correctly matched?

(a) None of the pairs
(b) Only one of the pairs
(c) Only two of the pairs
(d) All of the three pairs

84. Consider the following management methods/techniques:

1. System analysis
2. Organizational design
3. Personnel management
4. Information systems

Which of the above methods/techniques are based on behavioural sciences?

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

85. In the following table, the end results of planning are qualified by brief characteristics:

1. Goal → Always constrained by time
2. Objective → Precise—either achieved or

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not achieved
3. Target → Permits the concept of degree of achievement

How many of the pairs given above are correctly matched?
(a) None of the pairs
(b) Only one of the pairs
(c) Only two of the pairs
(d) All of the pairs

86. Consider the following steps of a planning cycle:
1. Assigning priorities among the problems
2. Evaluation
3. Selecting best programme
4. Operating the programme

Which among the following is the correct sequence of steps?
(a) 3 → 4 → 1 → 2
(b) 1 → 2 → 3 → 4
(c) 1 → 3 → 4 → 2
(d) 2 → 3 → 4 → 1

87. Which of the following statements are correct for incidence rate?
1. It is useful for taking action to control a disease.
2. Rising incidence rates may indicate ineffectiveness of the current control programmes.
3. Fluctuation in incidence rate may indicate a change in aetiology of disease.

Select the answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

88. Consider the following definition:
A high level of infection beginning early in life and affecting most of the child population, leading to a state of equilibrium such that the adult population shows evidence of the disease much less commonly than the children.
Which one of the following terms best fits this definition?
(a) Holoendemic
(b) Hyperendemic
(c) Hypoendemic
(d) Pandemic

89. Consider the following statements regarding dengue virus:
1. It has four distinct serotypes.
2. Infection with any one serotype confers lifelong immunity for that virus serotype.
3. Secondary infection with dengue serotype 2 leads to severe form of dengue.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

90. Consider the following statements regarding dengue:
1. The mosquito becomes infective after an extrinsic incubation period of 8–10 days.
2. Once it becomes infective, the mosquito remains infective for life.
3. The genital tract of the mosquito does not get infected.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

91. A researcher has obtained the country-level data on the average Body Mass Index (BMI) and the average sugar intake for 100 countries. Which among the following will be best suited to present the relationship between BMI and sugar intake in the 100 countries?
(a) Bar chart
(b) Pie diagram
(c) Frequency polygon
(d) Scatter diagram

92. Frontline health workers are employed to record the births and deaths in countries which have made slow progress in the development of a comprehensive vital registration system. This approach is known as
(a) registration of vital events
(b) lay reporting
(c) sample registration system

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(d) census

93. While calculating the 'total dependency ratio,' which one of the following is used in the denominator?
(a) Midyear population
(b) Population 0 to 65 years
(c) Population 15 to 64 years
(d) Population 14 to 70 years

94. As per the United Nations definition of a vital events registration system, 'vital events' include which of the following?
1. Foetal deaths
2. School admissions
3. Legal separations
4. College graduations

Select the correct answer using the code given below.
(a) 1 and 2
(b) 1 and 3
(c) 2 and 3
(d) 2 and 4

95. Consider the following statements about Kyasanur Forest Disease (KFD):
1. It is transmitted by ticks.
2. It was originally called 'pig disease' because of the association with dead pigs.
3. It was first recognized in Karnataka State.

How many of the statements given above are correct?
(a) None of the statements
(b) Only one of the statements
(c) Only two of the statements
(d) All the three statements

96. In countries with low levels of measles transmission, what should be the appropriate age for starting immunization with measles-containing vaccine (MCV)?
(a) 6 months
(b) 9 months
(c) 12 months
(d) 15–18 months

97. Monkeypox, a viral zoonotic disease, is caused by
(a) a single-stranded RNA virus
(b) a double-stranded RNA virus
(c) a single-stranded DNA virus
(d) a double-stranded DNA virus

98. Raju, a 6-year-old boy, was returning home from school. At the gate, he was scratched by a dog and there was some bleeding from the wound. Which option should be followed for the post-exposure prophylaxis?
(a) Wash the wound and administer a shot of tetanus toxoid
(b) Wash the wound and vaccinate with ARV only
(c) Wash the wound, vaccinate with ARV and administer immunoglobulin
(d) Wash and apply antiseptic to the wound

99. The method of combined disposal of refuse and night soil is known as
(a) dumping
(b) controlled tipping
(c) incineration
(d) composting

100. Consider the following statements about working of septic tanks:
1. They are recommended for large communities, rather than small communities.
2. There should be no air space between the level of liquid in the tank and the undersurface of the cover.
3. Liquid effluent from the outlet pipe is free from all pathogens.

How many of the statements given above are correct?
(a) None of the statements
(b) Only one of the statements
(c) Only two of the statements
(d) All the three statements

101. Of the following amino acids, which is categorized as a nonessential amino acid?
(a) Leucine
(b) Threonine

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(c) Tryptophan
(d) Proline

102. Consider the following milks :
1. Buffalo milk
2. Cow milk
3. Goat milk
4. Human milk

What is the correct order (from highest to lowest) with regard to fat content per 100 g in the milk?
(a) 1 → 3 → 4 → 2
(b) 4 → 2 → 3 → 1
(c) 2 → 1 → 4 → 3
(d) 1 → 3 → 2 → 4

103. Which of the following are unsaturated fatty acids?
1. Lauric acid
2. Linoleic acid
3. Oleic acid
4. Palmitic acid

Select the correct answer using the code given below.
(a) 1 and 2
(b) 1 and 4
(c) 2 and 3
(d) 3 and 4

104. In India, the most widely prevalent stage of iron deficiency is
(a) decreased iron stores without any other detectable abnormalities
(b) fall in percentage saturation of transferrin
(c) overt iron deficiency with impaired haemoglobin synthesis
(d) decrease in the concentration of circulating haemoglobin

105. Consider the following statements:
Statement I: Waist circumference and waist to hip ratio are more powerful predictors of subsequent risk of type 2 diabetes than Body Mass Index (BMI).
Statement II: Central obesity is an important determinant of insulin resistance, the underlying abnormality in most cases of type 2 diabetes.
Which one of the following is correct in respect of the above statements?
(a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
(b) Both Statement I and Statement II are correct but Statement II is not the correct explanation of Statement I
(c) Statement I is correct but Statement II is incorrect
(d) Statement I is incorrect but Statement II is correct

106. Consider the following statement:
The people should seek to preserve their traditional eating patterns and lifestyles associated with low levels of Coronary Heart Disease (CHD).
Which level of prevention is implied in this statement?
(a) Primordial
(b) High risk
(c) Primary
(d) Secondary

107. Raju is 30 years of age. He has been working in the ceramic and pottery industry for the last 10 years. Which one of the following conditions should he be screened for?
(a) Silicosis
(b) Anthracosis
(c) Byssinosis
(d) Asbestosis

108. An industrial worker was brought to a medical facility due to health problems. On his workup including laboratory tests, a finding of basophilic stippling of Red Blood Cells (RBC) was observed. Which among the following is he/she likely to be having?
(a) Asbestosis
(b) Farmer's lung
(c) Lead poisoning
(d) Brucellosis

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109. Consider the following pairs of genetic diseases that show Mendelian inheritance. Each of the following pairs represents a genetic disease and it has been matched with a type of inheritance :
1. Cystic fibrosis → Autosomal recessive
2. Huntington's chorea → Autosomal dominant
3. Marfan's syndrome → Recessive sex-linked

How many of the pairs given above are correctly matched?
(a) None of the pairs
(b) Only one of the pairs
(c) Only two of the pairs
(d) All the three pairs

110. Consider the following statements:
Statement I: Signs of thalassemia major usually develop after 6 months of age.
Statement II: This is the time when haemoglobin synthesis switches from haemoglobin F to haemoglobin A.
Which one of the following is correct in respect of the above statements?
(a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
(b) Both Statement I and Statement II are correct but Statement II is not the correct explanation of Statement I
(c) Statement I is correct but Statement II is incorrect
(d) Statement I is incorrect but Statement II is correct

111. Which of the following publications is/are brought out by the World Health Organization?
1. CD Alert
2. Morbidity and Mortality Weekly Report (MMWR)
3. Weekly Epidemiological Record

Select the correct answer using the code given below.
(a) 2 only
(b) 1 and 2
(c) 2 and 3
(d) 3 only

112. As per the basic model of a nuclear family life cycle, consider the following phases :
1. Contraction
2. Dissolution
3. Extension
4. Formation

Which one of the following best represents the correct sequence of phases in a normal nuclear family?
(a) 1 → 2 → 3 → 4
(b) 4 → 3 → 1 → 2
(c) 1 → 4 → 3 → 2
(d) 4 → 1 → 2 → 3

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113. Which among the following are characteristics of health education, rather than propaganda?
1. Knowledge actively acquired, rather than instilled
2. Appeals to emotion, rather than reason
3. Behaviour centred, rather than information centred
4. Arouses and stimulates primitive desires, rather than disciplines them

Select the correct answer using the code given below.
(a) 1 and 2
(b) 1 and 3
(c) 2 and 3
(d) 3 and 4

114. Consider the following statements regarding LNG-20 (Mirena):
1. It is a T-shaped IUD filled with natural hormone progesterone.
2. It is associated with a low pregnancy rate (2 per 1000 women).
3. It is associated with a large number of ectopic pregnancies.
4. It is associated with lower menstrual blood loss as compared to copper IUDs.

Which of the statements given above is/are correct?
(a) 2 only
(b) 2 and 4 only
(c) 1, 3 and 4
(d) 2, 3 and 4

115. The most common cause of maternal mortality in India is
(a) obstetric haemorrhage
(b) obstructed labour
(c) unsafe abortion
(d) toxaemia of pregnancy

116. In the National Malaria Control Programme, Indoor Residual Spray (IRS) is the primary method of vector control in rural setting. Which one of the following is the 'insecticide of choice'?
(a) DDT
(b) Malathion
(c) Synthetic pyrethroid
(d) Temephos

117. Consider the following statements with regard to selection of Accredited Social Health Activist (ASHA) under NRHM:
1. ASHA must be a woman preferably in the age group of 18 to 25 years.
2. ASHA must have had formal education up to at least class ten.
3. ASHA must be a resident of the village.
4. ASHA may be a married, widowed or divorced woman.

Which of the statements given above are correct with regard to process of selection of ASHA?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

118. Consider the following statements regarding the Central Drugs Standard Control Organization (CDSCO) in India:
1. The CDSCO is headed by the Drugs Controller General (India) at the Centre.
2. The CDSCO is a part of the Directorate of Director General of Health Services.
3. The CDSCO is under the Ministry of Chemicals and Fertilizers, Government of India.
4. The CDSCO has a network of several port offices for monitoring the import and export of drugs.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1 and 3
(c) 1, 2 and 4
(d) 2 and 4 only

119. The National AIDS Control Organization provides prepacked colour-coded STI/RTI kits as a free supply to its designated STI/RTI clinics. Consider the following pairs:

Pair No.	Colour codes	STI/RTI conditions
1	Red	Urethral discharge
2	Green	Vaginitis
3	White	Inguinal bubo

How many of the pairs given above are correctly matched?
(a) None of the pairs
(b) Only one pair
(c) Only two pairs
(d) All the three pairs

120. A table shows results of an ELISA test for HIV infection:

True Infection Status	Infected	Noninfected
Test Positive	4900	950
Test Negative	100	94050
Total	5000	95000

Consider the following statements:
1. The sensitivity is 98%.
2. The specificity is 99%.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

END

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1. (b) 1, 2 and 4

Malnutrition impairs overall immunity and wound healing because of inadequate protein and micronutrient stores. Poor perfusion lowers oxygen and nutrient delivery to tissues, hindering the healing process and increasing susceptibility to infection. The presence of foreign body material creates a surface where bacteria can adhere and proliferate, further compromising wound integrity. In contrast, antibodies actually help in fighting infection and are not a risk factor. Therefore, items 1, 2, and 4 accurately represent risk factors for wound infection.

2. (a) 1, 2 and 3

Ionizing radiation is a well-established carcinogen. Leukaemia is notably linked to radiation exposure (as observed in atomic bomb survivors). Lung cancer risk increases particularly with exposures such as radon (a radioactive gas). Breast cancer has also been linked to medical or occupational radiation. While lymphoma can be multifactorial, its direct association with ionizing radiation is less classically emphasized than the other three. Hence, the recognized malignancies strongly tied to ionizing radiation here are 1, 2, and 3.

3. (b) 1, 3 and 4

Li-Fraumeni syndrome is classically caused by a germline mutation in the TP53 tumor suppressor gene and is inherited in an autosomal dominant pattern (making statement 1 correct, while statement 2 is incorrect). It confers a markedly elevated lifetime risk of multiple cancers, particularly soft tissue sarcomas, bone sarcomas (like osteosarcoma), leukaemia, brain tumors, and breast cancer. Therefore, statements 3 and 4 are also true. This combination accurately describes the hereditary cancer predisposition observed in Li-Fraumeni syndrome.

4. (c) intermittent claudication

Intermittent claudication is characterized by ischemic muscle pain brought on by exertion (walking a fixed distance) and relieved by a short rest. This occurs due to peripheral arterial disease, often linked to atherosclerotic changes that reduce blood flow to the leg muscles. Smoking is a major risk factor for arterial disease, which fits this patient's history. The brief rest typically restores enough circulation to allow the person to walk again for a similar distance, reinforcing the diagnosis of intermittent claudication.

5. (d) thyroglossal cyst with only functioning thyroid tissue

A classical thyroglossal cyst occurs in the midline and moves upward on protrusion of the tongue or swallowing. Sistrunk's procedure removes the cyst, the tract, and the mid-portion of the hyoid bone to reduce recurrence. If the ectopic thyroid tissue within the cyst represents the patient's only functioning thyroid tissue, removing it causes hypothyroidism, necessitating thyroxine replacement. A straightforward thyroglossal cyst (with a normal thyroid gland in its usual location) typically does not lead to permanent hypothyroidism postoperatively.

6. (c) Edge biopsy of the lesion

A white plaque on the lateral border of the tongue in a chronic smoker raises concern for leukoplakia or possible malignant transformation (e.g., squamous cell carcinoma). While oral candidiasis (thrush) can present as white patches, the patient's risk factors (tobacco use, poor oral hygiene) and lesion location necessitate ruling out malignancy. The best immediate step is to perform a biopsy of the lesion margin. This ensures an accurate diagnosis and helps guide definitive treatment.

7. (c) 1, 2 and 4

Acute visual loss commonly occurs with occlusion of the central retinal artery, which

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abruptly cuts off blood supply to the retina. Sudden haemorrhage into the vitreous or retinal layers can also block or distort vision immediately. Retinal detachment, where the sensory retina peels away from its underlying layer, typically presents with a rapid, painless loss of vision. By contrast, cataract formation progresses gradually over time, causing slow impairment rather than an acute event.

8. (c) Malignant transformation

A long-standing thyroid swelling (commonly a multinodular goiter) that suddenly enlarges rapidly and becomes firm or hard raises strong suspicion of malignant change. Though degenerative changes or haemorrhage can cause sudden expansion, these often present differently (e.g., painful swelling, fluctuant areas). The described consistency and relatively short period of growth are classic indicators of possible thyroid malignancy, prompting further evaluation via imaging and biopsy.

9. (b) 1, 2 and 4

Neurofibromatosis type 1 (NF1) is known for optic pathway gliomas and other CNS tumors. NF_2 is strongly linked with bilateral vestibular schwannomas and various intracranial tumors. Hereditary nonpolyposis colorectal cancer (Lynch syndrome) can, in certain variants (Turcot syndrome with mismatch repair genes), be associated with glioblastoma. Peutz-Jeghers syndrome typically predisposes to gastrointestinal polyps and certain extragastrointestinal malignancies (pancreatic, for instance), rather than brain tumors. Therefore, 1, 2, and 4 are the relevant associations.

10. (a) It is seen in full-term infants.

"Witch's milk" refers to breast milk–like fluid secreted from the nipples of some newborns, more commonly in full-term infants. It results from the transplacental passage of maternal hormones (especially estrogens and prolactin) that stimulate the neonate's breast tissue. It typically appears a few days after birth and then resolves spontaneously. Neither progesterone nor calcitonin are the principal causes of this phenomenon. The correct statement is that it is commonly observed in full-term babies.

11. (c) 1, 2 and 4

Barrett's esophagus involves a metaplastic replacement of the normal squamous epithelium by columnar epithelium (statement 1). It arises primarily from chronic gastroesophageal reflux disease (GERD) and is a significant risk factor for esophageal adenocarcinoma (statement 2). NSAIDs are not recognized as a main etiological cause—chronic acid reflux is. Endoscopic mucosal resection is indeed an effective treatment for high-grade dysplasia or early carcinoma in Barrett's esophagus (statement 4). Thus, 1, 2, and 4 are correct.

12. (a) 1, 2 and 3

Traumatic injury to the liver can lead to several localized complications. Liver abscess may develop from devitalized tissue and bacterial contamination. Biliary fistula arises if a major bile duct is lacerated, allowing bile leakage. Portal vein thrombosis can occur from direct vascular injury or compression. While severe hepatic damage might theoretically precipitate liver failure, immediate "liver failure" from acute trauma is less typically listed as a direct complication compared to the other three. Thus, 1, 2, and 3 are classic recognized complications.

13. (d) 1, 3 and 4

Acute pancreatitis commonly leads to local problems around the pancreas. A pseudocyst is a collection of pancreatic enzymes and fluid contained by a wall of fibrous or granulation tissue. Acute fluid collections (not yet walled off) can also accumulate in or around the pancreas. Ileus (localized or generalized) may develop as an immediate "paralytic" response in nearby bowel loops. Pleural effusion, although possible, is typically considered a more systemic or extrapancreatic complication and not purely local.

14. (c) 1, 2 and 4

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Major risk factors for pancreatic cancer include chronic smoking (one of the most important modifiable factors) and long-standing diabetes mellitus. There is a slight male predominance in pancreatic cancer incidence as well. Regarding ethnicity, African Americans generally have higher incidence rates compared to Caucasians, so "Caucasian ethnicity" is not a confirmed risk factor. Thus, the combination of 1, 2, and 4 aligns with well-established risk factors.

15. (b) Amyloid and Gaucher's disease

Gaucher's disease is a sphingolipid storage disorder (glucocerebrosidase deficiency) that causes pathological deposition of glucocerebroside in multiple organs, notably the spleen, leading to splenomegaly. Amyloidosis can also involve the spleen, with amyloid protein deposition causing organomegaly. Rickets (vitamin D deficiency) and Still's disease (a form of inflammatory arthritis) are not typically categorized as metabolic causes of large spleen. Porphyria is a heme synthesis disorder but does not typically present with prominent splenomegaly, and Felty's syndrome is linked to rheumatoid arthritis.

16. (c) It presents most commonly as a painless abdominal swelling.

Mesenteric cysts are rare intra-abdominal lesions that often remain asymptomatic and can be discovered incidentally or present as a painless, slowly enlarging abdominal mass. While children do frequently develop mesenteric cysts, they can appear at any age; and there is no strong male predominance. Definitive treatment is typically surgical excision rather than percutaneous aspiration with sclerosant. Because most patients notice a mass rather than severe pain, the most consistently correct statement is that mesenteric cysts commonly present as a painless swelling.

17. (b) 1, 2 and 4

Umbilical hernias in adults are often associated with obesity or weak abdominal musculature (statement 1). They can cause discomfort or pain from increased tension at the hernia site (statement 2). They are actually more common in women, especially multiparous women, so statement 3 is incorrect. Repair of umbilical hernias using Mayo's technique (overlapping repair of the defect) is a recognized surgical method (statement 4). Hence, the valid features are 1, 2, and 4.

18. (c) Iatrogenic infection

The single most common reason for esophageal perforation is iatrogenic trauma—often during endoscopic procedures, instrumentation, or surgery—which can introduce infection into surrounding tissues. "Iatrogenic infection" is somewhat loosely worded here, but it reflects that endoscopic or surgical manipulations of the esophagus frequently lead to perforation and subsequent infection (i.e., mediastinitis). While barotrauma (Boerhaave's syndrome) and malignancy-related perforations do happen, they are less common overall than iatrogenic causes.

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19. (a) 1, 2 and 3

Damage control surgery is classically divided into phases. First, the trauma team selects appropriate patients (those with exsanguinating hemorrhage or unstable physiology) for a rapid, abbreviated surgical intervention to control hemorrhage and contamination. Second, patients receive ongoing resuscitation in the ICU to correct coagulopathy, hypothermia, and acidosis. Finally, definitive surgery is performed once the patient is stabilized. "Preventive surgery" is not among the recognized phases of damage control. Thus, 1, 2, and 3 correctly outline the standard stages.

20. (c) 1, 3 and 4

Renal cell carcinoma (RCC) originates from the proximal tubular epithelium (statement 1). The main histological subtypes include clear cell, papillary, and chromophobe (statement 3). Surgical resection (partial or radical nephrectomy) is the cornerstone of curative treatment for localized (organ-confined) disease (statement 4). RCC shows a slight male predominance rather than female, making statement 2 incorrect. Therefore, the correct set of statements is 1, 3, and 4.

21. (c) 1, 3 and 4

Autosomal dominant polycystic kidney disease (ADPKD) involves multiple bilateral renal cysts, often accompanied by cysts in the liver and sometimes the pancreas or arachnoid (statement 1). Manifestations are both renal (hypertension, renal failure) and extrarenal (e.g., berry aneurysms) (statement 3). Men generally experience more rapid progression to renal failure, partly due to genetic and hormonal factors (statement 4). Although presentation can begin in early adulthood, the classic age range typically centers closer to the 30s–40s rather than strictly 20–30.

22. (b) urinary tract stones

ESWL uses shock waves focused on stones in the kidney or ureter to fragment them into smaller pieces, allowing their spontaneous passage through the urinary tract. It is a noninvasive, widely preferred approach for most renal and upper ureteric calculi. Gallbladder stones are typically managed by cholecystectomy. Salivary gland stones can sometimes be removed by endoscopic or surgical measures. ESWL is not indicated for "stony-hard" abdominal tumors. Hence, urinary tract stones represent the primary indication.

23. (a) 1, 2, 3 and 4

Most brain tumors, whether primary or metastatic, can elevate intracranial pressure (ICP), causing headaches and possibly papilledema (1,4). Seizures are a frequent presenting symptom, especially in supratentorial lesions (2). Focal neurological deficits (3) such as weakness, aphasia, or visual changes occur when the tumor affects specific brain regions. Thus, all four (raised ICP, seizures, focal deficit, and headache) are classical clinical features that collectively point toward an intracranial space-occupying lesion.

24. (a) astrocytoma

Neurofibromatosis type 1 (NF1) is known for multiple neurocutaneous manifestations, including neurofibromas and optic pathway gliomas. These gliomas are essentially pilocytic astrocytomas affecting the optic nerve or chiasm. By contrast, bilateral acoustic neuromas (vestibular schwannomas) characterize neurofibromatosis type 2 (NF2). Meningiomas and medulloblastomas are not the hallmark brain tumors of NF1. Thus, astrocytoma (particularly optic pathway glioma) is the most common intracranial tumor in NF1.

25. (d) 2, 3 and 4

A Morgagni hernia is an anterior diaphragmatic defect, not a posterior one (so statement 1 is incorrect). It occurs through an opening between the sternal and costal portions of the diaphragm (statement 3) and is a congenital defect (statement 4). The most common herniated organ through this defect is often the transverse colon (statement 2). Hernias in the posterolateral aspect (Bochdalek hernia) are different and occur more commonly.

26. (c) Rheumatoid arthritis

Rheumatoid arthritis (RA) is a chronic inflammatory disorder that typically presents with symmetrical joint involvement, most often in the small joints of the hands and feet. Morning stiffness improving later in the day, along with characteristic deformities such as ulnar deviation at the metacarpophalangeal joints, strongly suggests RA. Osteoarthritis more often affects distal interphalangeal joints (Heberden's nodes). Ankylosing spondylitis primarily involves the spine and sacroiliac joints. Tenosynovitis alone would not explain the classic ulnar deviation deformity.

27. (b) Frozen shoulder

Frozen shoulder (adhesive capsulitis) is commonly associated with diabetes mellitus. It presents with progressive pain and a significant restriction of both active and passive range of motion—especially in abduction and external rotation. A full-thickness rotator cuff tear often has other clinical signs (weakness, positive drop-arm test). Bacterial arthritis (septic arthritis) is typically acute, severely painful, and accompanied by systemic infection signs. Osteoarthritis is more common in weight-

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bearing or degenerative joints and less typical in a single shoulder in this manner.

28. (a) Ganglion cyst

A ganglion cyst is a fluid-filled sac that typically arises near joint capsules or tendon sheaths. On the wrist's dorsal aspect, it often becomes more visible with flexion. These cysts are usually smooth, non-tender, and can fluctuate in size. Sebaceous cysts and epidermoid cysts usually occur in the skin or subcutaneous tissue (often over hair-bearing areas), while dermoid cysts are developmental lesions containing skin adnexa. The classic location and features here match a dorsal wrist ganglion cyst.

29. (b) 1, 2 and 4

Upper motor neuron (UMN) lesions produce spasticity (increased tone) and hyperreflexia due to loss of inhibitory pathways (statements 1 and 2). Patients also exhibit weakness in affected muscles (statement 4). The plantar response typically becomes extensor (Babinski sign) rather than absent. Therefore, statement 3 is incorrect. This pattern of increased tone, brisk reflexes, and Babinski sign differentiates UMN involvement from lower motor neuron lesions (which show decreased tone and hyporeflexia).

30. (c) ASA 2

The American Society of Anesthesiologists (ASA) physical status classification rates overall surgical risk. An ASA 2 patient has a mild systemic disease with no significant functional limitations—such as well-controlled diabetes or hypertension. ASA 3 entails severe systemic disease that limits activity; ASA 4 includes severe, life-threatening disease. ASA 1 is a completely healthy person. Since this patient's diabetes is longstanding but well-controlled (no mention of end-organ damage or functional impairment), she is classified as ASA 2.

31. (d) Coagulopathy

Damage control surgery is indicated when ongoing hemorrhage and shock begin driving the "lethal triad" of trauma: acidosis, hypothermia, and coagulopathy. Among the choices, frank coagulopathy (poor clotting function) is a key pivot-point indicating the need to abbreviate surgery, stabilize the patient in the ICU, and correct their physiology before attempting definitive repair. Mild hypotension, mild acidosis (pH 7.3), or temperature 36 °C alone may not suffice. The presence of coagulopathy signals a tipping point at which damage control principles are applied.

32. (c) 1, 2 and 4

The principal aims (and benefits) of proper fracture management include relieving the patient's pain (e.g., via immobilization), preventing infection (especially in open fractures), and restoring normal anatomy (through reduction and stabilization) to allow healing and preserve function. While anaesthesia is crucial during fracture reduction or surgical fixation, it is a means rather than a benefit of treatment. Hence, items 1 (pain relief), 2 (infection prevention), and 4 (anatomical restoration) best characterize the benefits of fracture treatment.

33. (c) fracture of the skull base

A bruise over the mastoid area (Battle's sign) is a classic indicator of a basilar skull fracture, specifically affecting the posterior cranial fossa. This ecchymosis typically appears some hours after the injury when blood tracks along tissue planes behind the ear. While fractures of the mastoid process itself or injury to the ear canal are possible in trauma, the classical teaching is that Battle's sign strongly suggests a fracture through the base of the skull rather than isolated mastoid damage.

34. (b) traumatic spondylolisthesis of axis vertebra (C_2)

A "Hangman's fracture" classically refers to a fracture through the pars interarticularis of the C2 (axis) vertebra, leading to a forward slip (spondylolisthesis) of the C2 body on C3. Historically named because of its association with judicial hangings, it more commonly results today from high-impact motor vehicle accidents. This fracture is distinct from those involving the atlas (C1) or lower cervical/thoracic vertebrae.

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Prompt stabilization is important to avoid spinal cord compromise in this region.

35. (c) 1, 3 and 4

SIRS can certainly be triggered by endotoxin (e.g., lipopolysaccharide from gram-negative bacteria), though it can also arise from other severe insults (pancreatitis, burns, etc.). It is not synonymous with bacteremia (statement 2 is false) because SIRS may occur with or without infection. If severe and uncontrolled, SIRS can progress to sepsis, then multiple organ dysfunction syndrome (MODS). Among the diagnostic criteria of SIRS is an elevated WBC count (>12,000/μL), making statements 1, 3, and 4 correct.

36. (d) WHO surgical safety checklist

The WHO Surgical Safety Checklist is a standardized protocol designed to improve communication and prevent avoidable errors before, during, and after surgical procedures. It includes confirming the patient's identity, surgical site and procedure, the presence of necessary equipment, anticipated critical events, and other safety considerations (e.g., allergies, antibiotic prophylaxis). Universal precautions involve infection control measures, whereas local or institutional checklists may exist but the recognized global standard referencing patient identity and critical event anticipation is the WHO checklist.

37. (b) 1, 2 and 4

Hypertrophic scar management often combines multiple modalities: silicone gel sheeting to reduce scar thickness, intralesional corticosteroid injections to help flatten the scar, and various laser treatments (pulsed-dye or fractional lasers) to refine scar appearance and vascularity. While topical retinoids (vitamin A derivatives) can sometimes be employed for abnormal scars, the most standard and well-evidenced trio is silicone sheeting, steroid injections, and laser therapy. Together, they help modulate collagen remodeling and improve scar texture over time.

38. (c) 1, 3, and 4.

In most reference tables, an adult's typical sodium requirement approximates 50–90 mmol/day, and potassium around 40–60 mmol/day (making 50 mmol/day a reasonable figure). Although actual daily calcium intake targets (800–1000 mg) correspond to roughly 20–25 mmol, many exam-oriented sources simplify it to "1 mmol/day" of net absorbable calcium or near-minimal requirement. Magnesium needs are higher in reality (closer to 10–15 mmol/day), so option (4) is less commonly cited as "1 mM/day." Accordingly, the official key usually pairs 1, 2, and 3 as "approximate."

39. (d) 1, 2 and 3

Distributive shock (e.g., septic shock, anaphylactic shock) features profound vasodilation and reduced peripheral vascular resistance. The systemic vascular resistance drops, so the effective afterload also diminishes—"inadequate afterload." Despite low resistance, cardiac output in early distributive shock is often normal or even high because the heart pumps into a low-resistance circuit. Thus, "low cardiac output" (option 4) is not a hallmark of early/mid distributive shock. Ultimately, if uncorrected, cardiac output may fall, but the classic early pattern is 1, 2, and 3.

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40. (c) urine output

Urine output is a reliable, practical indicator of end-organ perfusion (specifically renal perfusion) in shock states. While blood pressure or central venous pressure can be misleading (due to compensatory vasoconstriction or fluid shifts), adequate urine output (≥0.5 mL/kg/hour in adults) demonstrates that the kidneys are being perfused sufficiently to filter and excrete. Pulmonary wedge pressure is invasive and reflects left atrial pressure more than global perfusion. Thus, urine output remains a key, real-time guide to resuscitation effectiveness.

41. (d) Foetal pancreas secretes insulin as early as 20 weeks.

Human fetal insulin production typically begins by around 10–12 weeks' gestation, but significant levels are noted closer to 20 weeks.

Meconium formation can begin around the latter half of pregnancy, though it's typically stored in the fetal intestines and only appears after about 20 weeks, not exactly at 16. Detectable fetal breathing movements begin around 20–24 weeks. Hematopoiesis starts in the yolk sac very early (around the 3rd week) but not precisely limited to "14th day."

42. (d) 1, 2 and 3

During normal pregnancy, plasma volume expansion exceeds red cell mass increase, leading to physiological haemodilution ("physiological anemia"). This reduced viscosity aids better perfusion and gas exchange. It also provides a reserve against postural hypotension (supine or erect) and helps mitigate the effects of blood loss at delivery. Hence, statements 1, 2, and 3 collectively describe recognized advantages of this natural adaptation in pregnancy.

43. (c) Both 1 and 2

Oligohydramnios refers to an abnormally low amniotic fluid volume. Two common ultrasound indices are used: the maximum vertical pocket (MVP) and the amniotic fluid index (AFI). MVP < 2 cm is sometimes used, but many definitions accept <5 cm as a cutoff. AFI < 5 cm is likewise a standard criterion for oligohydramnios. Therefore, both statements (maximum vertical pocket <5 cm and AFI <5 cm) can be correct in typical obstetric practice.

44. (d) 2, 3 and 4

Pregnancy induces multiple hormonal adjustments. Placental production of CRH rises, stimulating increased cortisol; maternal aldosterone secretion also increases (contributing to fluid retention); and maternal ACTH levels can increase in parallel with placental hormones. Although maternal thyroid function is altered, actual "serum iodine" does not necessarily increase—in fact, iodine deficiency can be a concern if dietary intake is inadequate. Hence, statements 2, 3, and 4 are recognized changes, while statement 1 is not universally correct.

45. (a) 1, 2 and 3

True labor is characterized by regular, painful uterine contractions that lead to progressive cervical changes (dilation and effacement). A show (passage of blood-tinged mucus plug) often heralds that these changes are underway. "Labour" refers to the process from onset of regular contractions and cervical effacement/dilatation to the baby's delivery—whereas "delivery" is just one culmination stage of labor. They are not strictly synonymous (making statement 4 incorrect). Hence, items 1, 2, and 3 define true labor onset.

46. (c) 5 cm

While older obstetric texts sometimes cited 3–4 cm dilation as the onset of active labour, the 2018 WHO Intrapartum Care Guidelines emphasize that the active phase generally begins around 5 cm. From that point onward, cervical dilatation tends to accelerate more predictably. This updated threshold helps avoid unnecessary interventions (e.g., diagnosing "failure to progress" too early). Thus, 5 cm reflects the contemporary WHO standard for defining the start of the active phase.

47. (c) mentovertical diameter

"Marked deflexion" of the fetal head refers to partial extension, such as in a brow presentation. The presenting diameter in this scenario is the mentovertical diameter (approximately 13.5 cm), one of the largest diameters of the fetal skull and thus a more difficult fit through the maternal pelvis. In a well-flexed vertex presentation, the suboccipitobregmatic diameter (around 9.5 cm) typically presents, but with pronounced deflexion/extension, engagement occurs along the longer mentovertical line instead.

48. (b) 1, 2 and 4

Multiple factors help trigger labour. Uterine distension (1) contributes by increasing irritability and prostaglandin release. Foetal hypothalamic-pituitary-adrenal axis activation (2) raises fetal cortisol (and CRH), fueling downstream changes. Meanwhile, oestrogen upregulates oxytocin receptors in the myometrium (4). However, an immediate

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"rise" in progesterone just before labour is not typical; rather, there is functional progesterone withdrawal or a relative decrease in its dominance. Thus, statements 1, 2, and 4 best explain the onset of labour.

49. (c) Cephalohaematoma

A cephalohaematoma is a subperiosteal hemorrhage confined by cranial suture lines. Typically, it arises during instrumental delivery or birth trauma when periosteal blood vessels are ruptured. Because the periosteum is tightly adhered at the suture margins, the swelling does not cross suture lines. This contrasts with a caput succedaneum, which is a more diffuse edema of the scalp that can cross sutures. Subgaleal hemorrhage can cross sutures but usually extends widely under the aponeurotic layer.

50. (d) 1, 2 and 3

Placenta accreta spectrum involves an abnormal trophoblastic invasion into the uterine wall. Pathologically, there is often an absence of the decidua basalis (1) and absence or defect of Nitabuch's layer (2). On imaging, the typical ultrasound sign includes loss of the normal hypoechoic (clear) retroplacental space (3) as the placenta invades directly into the myometrium. All three features help characterize the condition, leading to difficulties with placental separation at delivery and a risk of massive hemorrhage.

51. (b) 1, 2 and 3

Peripartum cardiomyopathy typically manifests toward the end of pregnancy or in the months following delivery, especially in multiparous women (1) with no prior known cardiac history. An ejection fraction under 45% (2) on echocardiography is a key diagnostic criterion. During pregnancy, ACE inhibitors are contraindicated (3) because they can be teratogenic (and postpartum they can be used cautiously, but generally avoided in pregnancy). A prior heart disease history is not usually present, making statement 4 incorrect.

52. (b) Scar rupture/dehiscence during labour

Sudden onset of severe abdominal pain, vaginal bleeding, abnormal fetal heart rate (FHR) tracing, scar tenderness over a previous cesarean site, and even hematuria suggests that the uterine incision may have ruptured into adjacent structures (e.g., bladder). These features are highly suspicious for uterine scar rupture. A simple urinary tract infection would not typically produce the acute hemorrhage or the FHR changes. True labour pain alone does not explain the alarming signs.

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53. (c) Uterine rupture

In a pregnant woman with a prior cesarean scar, acute hypotension, loss of fetal heart sounds, and the ability to palpate fetal parts distinctly often indicate complete uterine rupture. The uterus tears, typically at the old scar, allowing fetal parts to extrude partially or wholly into the abdominal cavity. Abruptio placentae (premature placental separation) can cause shock and abnormal fetal heart rates, but does not usually lead to such an obvious palpation of fetal parts externally.

54. (c) HELLP syndrome

HELLP syndrome stands for Hemolysis, Elevated Liver enzymes, and Low Platelet count. It is a variant of severe preeclampsia/eclampsia with significant hepatic involvement. The patient's high blood pressure (160/100 mmHg), thrombocytopenia (low platelets), and elevated liver enzymes (SGOT/SGPT) match HELLP. Obstetric cholestasis typically presents with pruritus and elevated bile acids. Acute viral hepatitis involves different clinical/laboratory patterns. Eclampsia adds seizures to severe preeclampsia signs but does not specifically require the combination of hemolysis and low platelets.

55. (b) Inevitable abortion

In early pregnancy, inevitable abortion is suggested by vaginal bleeding, cramping lower abdominal pain, and cervical dilation such that products of conception are palpable or can be seen. In threatened abortion, the cervical os remains closed. Incomplete abortion typically involves partial passage of some products, leaving residual tissue. Septic abortion includes

infection signs (fever, foul discharge). Because here the os is open and the products of conception are still in utero but palpable, the scenario fits "inevitable abortion."

56. (a) Pelvic endometriosis

Ureteric injuries during hysterectomy often stem from distorted pelvic anatomy and inflammation. Pelvic endometriosis can cause scarring and adhesions that pull or encase the ureter, increasing the risk of inadvertent damage during uterine or adnexal dissection. Adenomyosis affects the uterine wall itself and is less typically implicated in ureteral distortion. Hydrosalpinx (dilated fallopian tube) and ovarian teratoma do not commonly entrap or displace the ureter in the manner endometriosis can.

57. (b) 1 and 3

Stress urinary incontinence (SUI) typically arises from urethral hypermobility (1) when support structures of the bladder neck weaken, allowing it to descend with increased intra-abdominal pressure. Additionally, lowered urethral closing pressure (3) contributes to leakage. The bladder neck does not ascend; it descends in SUI. Increased detrusor activity is related to urge incontinence (overactive bladder), not stress incontinence. Hence, 1 and 3 accurately describe the pathophysiology of SUI.

58. (c) Hysteroscopy and laparoscopy

Bicornuate uterus is a congenital uterine anomaly involving a central myometrial indentation. Hysteroscopy alone shows the internal cavity's division but cannot fully assess the external fundal contour. Laparoscopy directly visualizes the external uterine surface. When done together, they confirm whether the uterus is bicornuate (single external indentation) versus septate (normal external contour but septum internally). D&C or hysterectomy are not "confirmatory" in the diagnostic sense; hysterectomy is a definitive removal, not typically used simply for diagnosis.

59. (b) 1, 2 and 4

The pelvic cellular (endopelvic) connective tissue is a key supportive framework that holds pelvic organs in position (1) and conveys blood vessels, lymphatics, and ureters (2). During pregnancy, it undergoes marked hypertrophy to accommodate increased vascular and structural demands (4). While it may limit or compartmentalize some infections, it does not definitively "prevent infection from spreading out of the pelvis" (3 is an overstatement). Thus, 1, 2, and 4 are the accurate statements.

60. (c) 1, 3 and 4

Complete Androgen Insensitivity Syndrome (AIS), also termed testicular feminization (3), is typically X-linked recessive (1). Individuals have a 46 XY karyotype (not XXY), rendering statement 2 incorrect. They produce normal or high male-range androgens, but target tissues cannot respond due to androgen-receptor gene mutations on the X chromosome. Diagnosis is often confirmed by finding testes (e.g., in the inguinal canal or abdomen), sometimes via gonadal biopsy (4). Externally, these patients present with female phenotype but lack a fully developed uterus/upper vagina.

61. (a) 1, 2 and 3

When primary amenorrhoea is suspected to be due to an "unresponsive" endometrium, the clinician must determine if the issue lies in hormonal stimulation or the uterus itself. Karyotyping excludes chromosomal abnormalities. A progesterone challenge test assesses whether sufficient endogenous estrogen has primed the endometrium (and if the outflow tract is intact). Hormonal assays (FSH, LH, prolactin, TSH, etc.) help clarify if the ovaries are producing adequate hormones. By contrast, hysterosalpingography is more useful for tubal patency and is not routinely required for diagnosing endometrial non-responsiveness.

62. (c) Mayer-Rokitansky-Küster-Hauser syndrome

Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome involves congenital absence of the uterus and upper part of the vagina in an otherwise genetically female (46,XX) individual. Because the ovaries function normally, patients

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typically have normal development of secondary sexual characteristics (breast development, pubic hair). Turner syndrome (45,X) usually presents with poor secondary sexual development. Androgen insensitivity syndrome has a 46,XY karyotype. Primary ovarian failure would generally impair secondary sexual development due to inadequate estrogen production.

63. (b) Asherman syndrome

Asherman syndrome results from intrauterine adhesions/scarring, most often following a uterine procedure such as a D&C. The normal or low FSH (8 IU/L) rules out primary ovarian insufficiency (where FSH would be elevated). Sheehan syndrome (pituitary failure post-partum hemorrhage) does not fit well with this post-D&C scenario. Incomplete abortion would not typically cause a prolonged secondary amenorrhoea after a prior procedure. Hence, Asherman syndrome (intrauterine synechiae) is the most likely diagnosis.

64. (c) 1, 3 and 4

Admission for PID is advised when (1) the patient is pregnant (to safeguard fetus and ensure parenteral therapy), (3) a tubo-ovarian abscess is suspected (requires more intensive management), or (4) the patient has significant immunocompromise (e.g., HIV infection), as outpatient therapy may fail. Mild fever and pain responding readily to antibiotics (statement 2) generally do not require hospitalization. Hence, criteria 1, 3, and 4 are the main recognized indications for inpatient treatment.

65. (d) Acute PID

Pelvic inflammatory disease (PID) often presents with lower abdominal or pelvic pain, abnormal vaginal discharge, and cervical motion tenderness (Chandelier sign). Fever and elevated inflammatory markers (ESR, CRP) are classic in moderate to severe cases. Prolonged intrauterine device use can be a risk factor, especially if there are additional risk behaviors. Ectopic pregnancy or appendicitis may have some overlapping signs, but the specific combination of cervical/adnexal tenderness and discharge strongly suggests acute PID.

66. (d) 1, 2 and 4

Although modern data sometimes suggest oral contraceptives can reduce PID severity, certain sources/classic teaching still list contraceptive pills (1) as a risk factor because they may increase cervical ectopy, making the cervix more susceptible to infection. IUD use (2) is a known risk, especially within the first few weeks after insertion. Sexually active teenagers (4) have higher rates of STIs due to multiple factors (e.g., less consistent condom use). Genetic predisposition (3) is not commonly cited for PID risk.

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67. (d) 2, 3 and 4

Genital tuberculosis typically presents with infertility (2), often accompanied by chronic pelvic pain (3) and menstrual disturbances such as oligomenorrhea or amenorrhea (4). Although postmenopausal bleeding (1) can occur in rare cases, it is less commonly recognized as a classic presenting feature compared with disturbances in reproductive-age women. Hence, the principal symptomatic triad involves infertility, pelvic pain, and irregular menses.

68. (a) Vaginal bleeding is the commonest presenting symptom

Choriocarcinoma most frequently presents with irregular or excessive vaginal bleeding, often following a molar pregnancy or, less commonly, after abortion or term delivery. The figure of "20–30%" progression from all molar pregnancies is an overestimate (the progression is significantly lower, especially with modern follow-up). The uterine body, not the fallopian tube, is the usual site of origin. Choriocarcinomas are also notably chemosensitive, not resistant, leading to high cure rates with appropriate regimens.

69. (d) 2, 3 and 4

Favorable prognostic indicators in ovarian cancer include a well-differentiated (lower grade) tumor (2), smaller tumor burden (3) at the time of diagnosis/debulking, and absence of malignant ascites (4). Younger (not older) patient age is also generally a better prognostic

factor, so statement 1 is incorrect. Thus, well-differentiation, limited disease volume, and no ascites portend an improved outcome.

70. (b) Methotrexate

Methotrexate (often with folinic acid rescue) is the mainstay, first-line chemotherapy for low-risk gestational trophoblastic neoplasia (GTN). It achieves high cure rates with relatively tolerable side effects. Cisplatin and other agents (e.g., EMA-CO regimens using etoposide, methotrexate, actinomycin-D, cyclophosphamide, vincristine) may be reserved for high-risk cases or methotrexate resistance. Gemcitabine is not a standard first-line in GTN.

71. (b) Endometrial hyperplasia is often associated.

Ovarian thecoma-fibroma tumors belong to the sex-cord stromal category and can secrete estrogen. This excess estrogen frequently leads to endometrial hyperplasia or even endometrial carcinoma in some cases. Bilaterality in these tumors is relatively uncommon (significantly less than 20%). While they can be linked with ascites (especially fibromas in Meigs' syndrome), it is not invariably present. Germ cell origin is incorrect; thecomas/fibromas arise from the ovarian stroma.

72. (d) total vaginal length

The Pelvic Organ Prolapse Quantification (POPQ) system designates various reference points (Aa, Ba, Ap, Bp, C, D) and measurements (genital hiatus, perineal body, total vaginal length). Total vaginal length (TVL) is measured from the hymenal ring to the apex of the vagina after the prolapse has been manually reduced. All other points (C, D, etc.) are recorded in situ without necessarily reducing the prolapse. This ensures an accurate assessment of the full vaginal canal length independent of the prolapsed segment.

73. (d) 2, 3 and 4

Fothergill's operation (Manchester operation) is a uterine-sparing procedure for mild uterine descent. The key steps include amputation of the elongated cervix (2), plication of the cardinal (Mackenrodt's) ligaments (3) at the cervix's anterior aspect to provide better support, and commonly an anterior colporrhaphy (4) to address any associated cystocele. "Laparoscopic or vaginal ligation" (1) does not describe a standard essential step of this classic operation.

74. (c) 1, 3 and 4

Cold knife conization is an excisional diagnostic/therapeutic procedure indicated when: (1) colposcopic, cytologic, and biopsy results are discordant (inconsistent findings), (3) carcinoma in situ (CIN 3) must be ruled out or definitively treated, and (4) the colposcopic exam is unsatisfactory (lesion margins cannot be seen). While persistent low-grade (CIN-1) lesions can require further intervention, the more typical approach is ablative therapy or LEEP/laser excision rather than a cold knife conization, making statement 2 less standard.

75. (a) 1, 2 and 3

Success after tubal reconstructive surgery depends on minimal scarring and adequate length of functional tube. Dense pelvic adhesions (1) reduce operative success and increase the risk of postoperative re-occlusion. A very short remaining tube (2) (< 8 cm in some references, or even < 4 cm in others) decreases the chance of natural conception. Bilateral hydrosalpinx (3) similarly lowers fertility rates. While age and other factors (e.g., interval from sterilization) can matter, they are generally less definitive "poor outcome" predictors than the first three.

76. (b) liver dysfunction

Ulipristal acetate is metabolized primarily by the liver. In the presence of significant hepatic dysfunction, its metabolism and clearance can be impaired, potentially leading to toxicity or reduced efficacy. Therefore, women with acute or severe liver disease are contraindicated from using ulipristal for emergency contraception. Glaucoma, kidney failure, and coagulopathies are not standard listed contraindications for ulipristal.

77. (c) Antara

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Under the National Family Planning Programme in India, "Antara" is the brand name for the intramuscular depot medroxyprogesterone acetate (DMPA) injection containing 150 mg/mL. "Sayana Press" is a slightly lower dose (104 mg) DMPA formulation for subcutaneous use. "Saheli" (or centchroman/ormeloxifene) is a non-steroidal oral contraceptive. "Sahiba" is not the government's brand name for DMPA.

78. (c) 1, 3 and 4

Recognized serious complications of combined oral contraceptive pills include cholestatic jaundice (hepatic effects), venous thromboembolism (particularly in predisposed women), and a possible slight increase in breast cancer risk with long-term use. While chloasma (melasma) and mild skin changes can certainly occur, they are usually considered minor side effects rather than "major complications." Thus, items 1, 3, and 4 are most typically categorized as significant or "major" risks.

79. (b) 1, 2 and 4

Indications for removing an intrauterine device include persistent or unacceptable uterine bleeding, uterine perforation, or pregnancy with the device in place (to reduce infection/miscarriage risk). Pyelonephritis alone is not a standard direct indication for IUD removal unless it is thought to be part of a severe pelvic infection or complicated UTI. Therefore, 1, 2, and 4 are the classic reasons to remove the IUD.

80. (d) Depo-Provera injection

Women taking certain enzyme-inducing medications (e.g., rifampicin, some anticonvulsants) experience decreased blood levels of estrogens/progestins from oral contraceptives, resulting in higher failure rates. Depot medroxyprogesterone acetate (DMPA) injections, often branded "Depo-Provera," maintain relatively stable levels and are less affected by hepatic enzyme induction. While condoms or diaphragms may provide non-hormonal barriers, they are less reliable in typical use. Depo-Provera offers a high efficacy unaffected significantly by enzyme inducers.

81. (b) 2 and 3 only

Under WHO/UNICEF "open vial" guidelines, inactivated liquid vaccines (like DPT and Hepatitis B) that contain appropriate preservatives can be reused in subsequent sessions, provided they remain sterile and within recommended cold-chain conditions. By contrast, BCG and measles are freeze-dried (lyophilized) vaccines which, once reconstituted, must be discarded within a few hours (generally within six hours or at the end of the session). Therefore, only DPT (2) and Hepatitis B (3) can be used over multiple sessions.

82. (b) Ecological

The ecological concept of health views human well-being as an ongoing balance or adaptation between the individual and the surrounding environment. Diseases arise when this balance is disturbed (i.e., maladjustment to environmental conditions). The purely biomedical concept focuses on absence of disease in bodily terms, while the psychosocial concept incorporates mental and social factors. The holistic concept merges multiple dimensions but does not specifically emphasize the environment in the manner of the classic "ecological" definition.

83. (d) All of the three pairs

The National Health Policy (NHP) 2017 indeed sets targets/examples under these three broad headings: improving overall health status/impact (e.g., raising life expectancy), health system performance (e.g., high immunization coverage), and health system strengthening (e.g., increased government health spending). Each pair in the table is accurately matched to its corresponding objective in the policy.

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84. (a) 1, 2 and 3

In many standard texts of health management, organizational design (2) and personnel management (3) are clearly in the realm of behavioral sciences, focusing on group dynamics, leadership, and motivation. System analysis (1) can also be partly included under the broader managerial/behavioral approach (exam contexts often lump it in), whereas information

systems (4) are typically considered a technical/operational tool rather than purely behavioral. Hence, the official key often lists 1, 2, and 3 as "behavioral sciences" in such classification schemes.

85. (c) Only two of the pairs

Conventionally, an objective is the precise, time-bound end result that is either met or not met (so "Precise—either achieved or not achieved" fits "objective"). A target often refers to a quantifiable measure (degree of achievement). A goal is typically broader, sometimes time-related but not invariably "always constrained by time." So 2 and 3 match standard definitions, but 1 is usually incorrect. Thus, two of those pairs are correctly matched.

86. (c) $1 \rightarrow 3 \rightarrow 4 \rightarrow 2$

A standard planning cycle typically follows: (1) identify and prioritize problems, (3) formulate and select the best solution/program, (4) implement or operate that program, and (2) evaluate the results. This ensures resources go toward the most pressing needs, the chosen intervention is executed, and only then is it evaluated for effectiveness and possible revision. Hence the order is $1 \rightarrow 3 \rightarrow 4 \rightarrow 2$.

87. (d) 1, 2 and 3

Incidence rate is crucial for public health action since it measures new cases over time (statement 1). If it rises, that may signal failure or inefficacy in current control measures (statement 2). Abrupt changes or fluctuations in incidence can also imply new risk factors or etiologic shifts (statement 3). Hence, all three statements describe valid applications or interpretations of incidence data.

88. (a) Holoendemic

A holoendemic disease is one that infects children at a very high rate, so much so that by adulthood most individuals show evidence of past infection and have developed immunity. As a result, overt disease in adults is much less common. "Hyperendemic" also refers to a high level of ongoing transmission but does not specifically imply the predominance of disease in children compared to adults. "Hypoendemic" and "pandemic" do not fit the definition given.

89. (d) 1, 2 and 3

Dengue virus indeed has four serotypes (DENV-1, -2, -3, -4). An individual infected by one serotype usually acquires lifelong immunity against that particular serotype (statement 2). A secondary infection with a different serotype—particularly DENV-2—is often linked with an increased risk of severe dengue (DHF/DSS). Hence, all three statements are factually correct.

90. (a) 1 and 2 only

After biting an infected host, Aedes mosquitoes require an extrinsic incubation period (8–10 days) before they can transmit dengue to another individual (statement 1). Once the virus reaches the salivary glands, the mosquito remains infective for the rest of its lifespan (statement 2). However, dengue viruses can infect multiple tissues, and there is evidence in some arboviruses of possible transovarial spread. So the blanket claim that "the genital tract does not get infected" (statement 3) is generally not accepted as correct.

91. (d) Scatter diagram

A scatter diagram (scatter plot) is ideal for showing the relationship or correlation between two continuous variables—here, country-level average BMI on one axis and average sugar intake on the other. A bar chart or pie diagram is better for categorical data. A frequency polygon displays the distribution of a single variable. Thus, to visualize how BMI might vary with sugar intake across 100 countries, a scatter diagram is most appropriate.

92. (c) sample registration system

In the Sample Registration System (SRS), part-time enumerators (often local workers such as anganwadi workers or accredited social health activists) keep continuous records of births and deaths in selected sample units. Independent supervisors periodically verify these. Countries (or regions) that lack universal civil registration

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adopt this dual-record system to estimate birth and death rates more accurately.

93. (c) Population 15 to 64 years

The dependency ratio compares the "dependent" age groups (usually those < 15 years plus those ≥ 65 years) to the "working-age" population (commonly 15–64 years). Thus, the denominator for the total dependency ratio is the population aged 15–64. This indicates how many dependents exist for every 100 (or 1,000) working-age individuals.

94. (b) 1 and 3

Under UN guidelines, the vital events for registration include births, deaths, fetal deaths (stillbirths), marriages, divorces—or "legal separations"/annulments in some frameworks—adoptions, and legitimations. Foetal deaths definitely qualify. "Legal separations" may be grouped with divorces/annulments depending on jurisdiction, so it can be considered a vital event for some registration systems. School admissions (2) and college graduations (4) are not vital events. Hence, pairs 1 and 3 represent recognized "vital events."

95. (c) Only two of the statements

KFD is a tick-borne viral hemorrhagic fever first identified in the Kyasanur Forest of Karnataka, India (statement 1 is true, statement 3 is true). It is primarily associated with monkeys (especially dead langurs), not pigs—hence the popular name was not "pig disease." So statement 2 is incorrect. Therefore, exactly two statements (1 and 3) are correct.

96. (c) 12 months

Where measles transmission is high (often in developing regions), WHO generally recommends the first measles dose at 9 months to protect infants early. However, in low-transmission settings—i.e., places that have effectively reduced measles circulation—the recommended first dose often shifts to around 12 months to optimize seroconversion and longer-lasting immunity.

97. (d) a double-stranded DNA virus

Monkeypox belongs to the Orthopoxvirus genus (which includes smallpox virus) of the Poxviridae family. These viruses are large, brick-shaped, and contain double-stranded DNA. In contrast, many other zoonotic viruses (e.g., influenza, rabies) are single-stranded RNA viruses.

98. (c) Wash the wound, vaccinate with ARV and administer immunoglobulin

A dog scratch drawing blood is typically treated as a Category III exposure under rabies guidelines. Proper management includes: immediate and thorough washing of the wound, vaccination with anti-rabies vaccine (ARV), and immunoglobulin if the animal is high-risk or unvaccinated (and the wound is severe). Tetanus prophylaxis may also be needed, but the key rabies steps are wound washing, vaccine, and immunoglobulin for Category III.

99. (d) composting

Composting is a biological process in which organic wastes, including biodegradable refuse and in some methods even night soil (human excreta), are decomposed by microorganisms under controlled conditions. This produces nutrient-rich compost. "Controlled tipping" (sanitary landfill) is largely for refuse disposal alone. "Incineration" is high-temperature burning typically used for biomedical or hazardous waste, and "dumping" is just open disposal without treatment.

100. (a) None of the statements

(1) Septic tanks are generally recommended for small settlements or individual households, not large communities (which typically need full-scale sewage treatment). (2) There is usually a space between the liquid and the cover, allowing gases to accumulate and vent. (3) The effluent is not completely free of pathogens; it still contains microorganisms and may require soak-pit dispersion or further treatment. Therefore, none of the given statements are correct.

101. (d) Proline

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Essential amino acids are those the body cannot synthesize in sufficient quantities and must therefore come from the diet. Leucine, threonine, and tryptophan are all essential in humans. Proline, on the other hand, can be synthesized endogenously from other metabolic precursors, making it a nonessential amino acid.

102. (d) 1 → 3 → 2 → 4

Typical average fat contents are highest in buffalo milk (around 7–8 %), followed next by goat milk (3.8–4.1 %), then cow milk (3.0–4.0 %), and human milk often around 3–4 % but generally on the lower side in standard references when directly compared. Thus the descending order of fat percentage is Buffalo (1) Goat (3) Cow (2) Human (4).

103. (c) 2 and 3

Lauric acid (12 : 0) and palmitic acid (16 : 0) are saturated fatty acids. Linoleic acid (18 : 2) is a polyunsaturated essential fatty acid, and oleic acid (18 : 1) is monounsaturated. Hence 2 (linoleic) and 3 (oleic) are the unsaturated fatty acids in this list.

104. (a) decreased iron stores without any other detectable abnormalities

Iron deficiency typically progresses in stages: first, ferritin and stored iron are depleted (still no obvious lab or clinical anomalies). Next, further changes manifest as low serum iron and transferrin saturation. Finally, haemoglobin production and RBC indices drop, resulting in iron deficiency anaemia. In many community surveys, the earliest/latent stage—loss of iron stores—is believed to be most common in populations, especially in developing countries like India, making option (a) the most widely prevalent stage.

105. (a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I

Excess central (visceral) fat strongly predisposes to insulin resistance, making waist circumference or waist–hip ratio better predictors of type 2 diabetes than overall BMI. Since statement II (central obesity drives insulin resistance) directly explains why statement I (waist-related measures are more predictive than BMI) is true, both statements are correct, and II explains I.

106. (a) Primordial

Primordial prevention aims to prevent the emergence and establishment of social, economic, and cultural patterns of living that are known to increase the risk of disease. Encouraging populations to retain healthy traditional diets and lifestyles before risk factors (e.g., high-fat diets, sedentary habits) even develop is a textbook example of primordial prevention. Primary prevention deals with preventing disease in individuals who already have risk factors; primordial prevention is about stopping those risk factors from arising in the first place.

107. (a) Silicosis

Ceramic and pottery workers are exposed to silica dust, putting them at risk for silicosis, a pneumoconiosis characterized by fibrotic nodules primarily in the upper lobes. Anthracosis is associated with coal dust exposure, byssinosis with cotton dust, and asbestosis with asbestos fibers (shipyard, construction, etc.). Hence, the correct screening for a pottery/ceramics worker is silicosis.

108. (c) Lead poisoning

Basophilic stippling of RBCs (small, dark-blue granules) is characteristically seen in lead poisoning. Lead interferes with enzymes of heme synthesis, resulting in accumulated ribosomal precipitates that appear as stippling. Asbestosis and farmer's lung involve lung pathology without this RBC change, and brucellosis is a bacterial zoonosis, also not associated with basophilic stippling.

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109. (c) Only two of the pairs

Cystic fibrosis (CF) is indeed autosomal recessive. Huntington's disease follows autosomal dominant inheritance. Marfan syndrome is also autosomal dominant, not "recessive sex-linked." Hence pairs 1 and 2 are

correct, while 3 is incorrect, so exactly two pairs are correct.

110. (a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I

In β-thalassemia major, newborns appear relatively normal at birth because of high levels of haemoglobin F (fetal). Around 6 months, as HbF declines and adult haemoglobin (HbA) should take over, the defective beta chains become apparent, and clinical symptoms arise. Statement II precisely explains why the major manifestations start after 6 months, making both statements correct with II explaining I.

111. (d) 3 only

CD Alert is published by India's National Centre for Disease Control (NCDC). Morbidity and Mortality Weekly Report (MMWR) is from the U.S. Centers for Disease Control and Prevention (CDC). The Weekly Epidemiological Record (WER) is published by the World Health Organization (WHO). Hence only 3 belongs to WHO.

112. (b) 4 → 3 → 1 → 2

A commonly cited four-phase cycle for a nuclear family is:

1. Formation (marriage and starting a family) →
2. Extension (arrival of children and expansion) →
3. Contraction (grown children begin leaving home) →
4. Dissolution (retirement, death of a spouse, etc.).

Hence, in the numbering given, 4 (Formation) → 3 (Extension) → 1 (Contraction) → 2 (Dissolution).

113. (b) 1 and 3

Health education relies on helping individuals actively acquire understanding (rather than just drilling in facts) and aims to develop healthy behaviours. By contrast, propaganda often appeals more to raw emotion (2) or base instincts (4). Thus in health education, knowledge is actively sought (1) and is behaviour-oriented (3), not merely emotional persuasion.

114. (b) 2 and 4 only

Mirena contains levonorgestrel (a synthetic progestin), not "natural progesterone," so statement 1 is incorrect. It indeed has a very low failure rate (about 2 per 1000), making statement 2 correct. Although an IUD pregnancy is more likely to be ectopic if it happens, the overall absolute risk of ectopic is low; it is not associated with a "large number of ectopic pregnancies" (statement 3 is misleading). Mirena does reduce menstrual blood loss more than copper IUDs, so statement 4 is correct.

115. (a) obstetric haemorrhage

Despite improvements in obstetric care, postpartum hemorrhage (often combined with other hemorrhagic causes) remains the leading direct cause of maternal death in India, surpassing other causes such as obstructed labor, unsafe abortion, and hypertension (eclampsia/toxemia). Prompt recognition and active management of the third stage of labor are critical to reducing hemorrhagic complications.

116. (a) DDT

In India's malaria control efforts, DDT (dichlorodiphenyltrichloroethane) has historically been used as the chief insecticide for indoor residual spraying (IRS) in rural areas (provided local mosquitoes remain susceptible). Alternatives like malathion or synthetic pyrethroids are used in regions where DDT resistance is established. Temephos is more commonly employed in larval control.

117. (c) 3 and 4 only

ASHA guidelines indicate the worker should be a local resident (3) for familiarity with community, and she may be married, widowed, or divorced (4). The preferred age range is often stated as 25–45 years, not "18–25" (statement 1 is incorrect). Minimum education requirement is typically around class 8 (not necessarily class 10), so statement 2 is also incorrect.

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118. (c) 1, 2 and 4

The CDSCO is indeed led by the Drugs Controller General of India (DCGI) (1) and functions under the Directorate General of Health Services, Ministry of Health & Family Welfare (2), not under the Ministry of Chemicals and Fertilizers (so 3 is incorrect). It maintains port offices to oversee drug import/export (4).

119. (b) Only one pair

NACO color-coded STI/RTI kits differ from what is listed here. Green kit is indeed used for vaginal discharge (that matches 2). However, Red kit generally relates to lower abdominal pain in women (PID), not "urethral discharge," and "White kit" is for pelvic inflammatory disease or related conditions—while "inguinal bubo" is usually addressed by the Black kit. Thus, only pair 2 is correct.

120. (c) Both 1 and 2

1. Sensitivity = True Positives ÷ (True Positives + False Negatives) = 4900 ÷ 5000 = 98%.
2. Specificity = True Negatives ÷ (True Negatives + False Positives) = 94050 ÷ 95000 ≈ 98.95%, which rounds to 99%.

Hence both statements (1) and (2) are correct.

END

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QUESTION PAPER 2023

1. The ratio for Type-I to Type-III collagen during maturation of collagen in remodelling phase is:
   (a) 1 : 1
   (b) 2 : 1
   (c) 3 : 1
   (d) 4 : 1

2. Which one of the following statements regarding Gas Gangrene Infection is correct?
   (a) It is caused by C. perfringens, a gram negative aerobic non-spore-forming bacilli.
   (b) It is caused by C. perfringens, a gram positive anaerobic spore-forming bacilli.
   (c) It is caused by C. tetani, a gram positive anaerobic spore-forming bacilli.
   (d) It is caused by C. tetani, a gram negative anaerobic non-spore-forming bacilli.

3. The term 'Gompertzian curve' is related to which one of the following?
   (a) Tumour
   (b) Gallstone
   (c) Intestinal obstruction
   (d) Hernia

4. A 5-year-old male child comes with a left sided scrotal swelling which has no cough impulse and does not reduce on compression or lying down but the parents give a definite history that swelling is absent in the morning and comes by in the evening. The best treatment is :
   (a) To leave it alone (masterly inactivity)
   (b) Herniotomy
   (c) Eversion of sac
   (d) Hernioplasty

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5. A 25-year-old gentleman complains of dragging pain in the scrotum. The examination reveals the scrotum full of bag of worms which disappear on lying down. The usual first line option for relief is :
   (a) Percutaneous embolization of gonadal veins
   (b) Radio frequency ablation of testicular veins
   (c) Laparoscopic excision of affected testes
   (d) Excision of pampiniform plexus

6. A malnourished 60-year-old man underwent emergency surgery for Strangulated Sigmoid Volvulus. After resection of the sigmoid colon, a colostomy was fashioned. The postoperative period was stormy and he developed a painful calf swelling in right lower limb. The most probable diagnosis is :
   (a) Hypoproteinemia
   (b) Oedema of renal failure
   (c) Myocardial failure due to fluid overload
   (d) Deep vein thrombosis

7. Consider the following in respect of Salmon patch:
   1. It is a hemangioma.
   2. Its usual site is nape of neck.
   3. It is common in children.
   4. It needs surgical excision.

   Which of the statements given above are correct ?
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

8. Which of the following are components of 'Klippel-Trenaunay syndrome'?
   1. Cutaneous Naevus
   2. Subcutaneous Lipomas
   3. Varicose veins
   4. Soft tissue hypertrophy

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

9. 'Mickey Mouse Sign' during B-mode duplex ultrasound imaging comprises :
(a) Popliteal artery, Popliteal vein and Saphenous nerve
(b) Anterior tibial artery, Dorsalis pedis artery and Extensor hallucis tendon
(c) Common femoral vein, Common femoral artery and Great Saphenous vein
(d) Brachial artery, Basilica vein and Biceps tendon

10. Which of the following statements regarding Thyroglossal duct are correct ?
1. It is situated in midline of neck.
2. It moves upwards on swallowing but not on tongue protrusion.
3. It is treated with Sistrunk operation.
4. It may be the only functioning thyroid tissue in the body.
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

11. A 60-year-old tobacco chewer and heavy bidi smoker comes with diminished mouth opening and occasional spitting of blood mixed with saliva. Oral examination revealed a white buccal mucosa with a bright red velvety plaque. The most likely diagnosis is :
(a) Speckled leucoplakia
(b) Leukoplakia
(c) Erythroplakia
(d) Oral candidiasis

12. 'Collar-stud' abscess is seen in :
(a) Tuberculosis
(b) Lymphomatous degeneration
(c) Streptococcal infection
(d) Pseudomonas infection

13. The best cosmetic result following breast reconstruction is achieved with :
(a) Latissimus dorsi flap
(b) Silicone gel implant with reconstruction
(c) Transverse rectus abdominis myocutaneous flap
(d) Acellular dermal matrix flap

14. Which of the following are correct regarding Trichobezoar ?
1. It is a hair ball in the stomach.
2. It is common in psychiatric patients.
3. Common complications are bleeding, perforation or obstruction.
4. Treated with long course of proton pump inhibitors.
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

15. The inferior rectal artery is a branch of :
(a) Internal iliac artery
(b) Inferior mesenteric artery
(c) Internal pudendal artery
(d) Median sacral artery

16. Zollinger Ellison syndrome is characterized by which of the following ?
1. Fulminating gastric ulcers
2. Recurrent ulceration despite treatment
3. Non-beta islet cell tumour of pancreas
4. Recurrent episodes of dysentery
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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17. Which of the following statements with regard to Meckel's Diverticulum are correct ?
1. It represents a persistent remnant of the Vitello intestinal duct.
2. It is a pseudo diverticulum of gastrointestinal tract.
3. It is most commonly found on antimesenteric border of ileum.
4. Heterotopic mucosa is present in 20% patients.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

18. Which of the following statements with regard to Colorectal Carcinoma are correct ?
1. Left-sided Colorectal Carcinoma presents with bleeding per rectum.
2. Right-sided Colorectal Carcinoma presents with iron deficiency anaemia.
3. Right-sided Colorectal Carcinoma is more common as compared to the left-sided Colorectal Carcinoma.
4. Colonoscopy is the investigation of choice for suspected Colorectal Carcinoma.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

19. While managing oesophageal perforations, which of the following factors favour non-operative management ?
1. Perforation by a flexible endoscope
2. Perforation into mediastinum
3. Perforation with a small septic load
4. Perforation of the abdominal oesophagus

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

20. Which of the following statements are correct with regard to Familial Adenomatous Polyposis ?
1. It is associated with mutation of APC gene located on the short arm of chromosome 5.
2. It is inherited as an autosomal recessive condition.
3. It is associated with 100% lifetime risk for development of Colorectal carcinoma.
4. Congenital hypertrophy of retinal pigment epithelium is present in half of the cases of familial adenomatous polyposis.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

21. Which one of the following statements regarding Inflammatory Bowel Disease is correct ?
(a) Rectum is always involved in Crohn's disease.
(b) Fistula formation is common in Ulcerative Colitis.
(c) Stricture formation is common in Ulcerative Colitis.
(d) Perianal disease is common in Crohn's disease.

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22. A Sengstaken-Blakemore tube is used for the management of :
(a) Corrosive poisoning
(b) Variceal bleeding
(c) Asphyxia
(d) Tension pneumothorax

23. The most common benign tumour of the liver is :
(a) Adenoma
(b) Haemangioma
(c) Focal nodular hyperplasia
(d) Angiomyolipoma

24. The best position to palpate the minimal enlargement of spleen is :
(a) Supine with lower limbs extended
(b) Palpation of left subcostal area in right

lateral decubitus position
(c) Bimanual palpation in supine position
(d) Palpation of left subcostal area in knee-elbow position

25. A young 28-year-old male was operated for duodenal ulcer perforation peritonitis. After having recovered well for five days, he developed high fever with chills and symptoms of toxemia. He developed right shoulder tip pain and intractable hiccoughs. The most likely diagnosis is :
(a) Surgical site infection
(b) Postoperative peritonitis
(c) Subphrenic abscess
(d) Right lobe liver abscess

26. In seat belt syndrome the most common site of bleeding is from :
(a) Bowel
(b) Mesentery
(c) Liver
(d) Spleen

27. Which one of the following is a cause of exudative ascites ?
(a) Congestive cardiac failure
(b) Portal vein thrombosis
(c) Peritoneal malignancy
(d) Nephrotic syndrome

28. Which one of the following statements is correct regarding eFAST in trauma ?
(a) It is a technique to assess free fluid in the abdominal cavity only.
(b) It is a technique to assess free fluid in abdominal cavity, thoracic cavity and pericardium.
(c) It is a technique to assess free fluid in pelvic cavity.
(d) It is a technique to assess free fluid in pleural cavity.

29. A 47-year-old man comes to Surgery OPD with history of recurrent episodes of UTI. He gives history of the urine being frothy and occasionally having bubbles. The probable diagnosis is :
(a) Anaerobic bacterial infection
(b) Colovesical fistula
(c) Tubercular cystitis
(d) Urethrocutaneous fistula

30. Which of the following are seen in Normal pressure hydrocephalus ?
1. Hearing loss
2. Gait disturbance
3. Incontinence
4. Cognitive decline
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 3 and 4 only

31. Which of the following are the functions of larynx ?
1. Fixation of the chest
2. Aids in swallowing of food
3. Phonation
4. Respiration
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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32. Which of the following are included in the classical clinical presentation of pericardial tamponade ?
1. Tachycardia
2. Muffled heart sounds
3. Decreased arterial pressure
4. Collapsed neck veins
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

33. Masaoka staging is used for staging :
(a) Germ cell tumours
(b) Thymoma
(c) Lymphoma
(d) Neurogenic tumours

34. Consider the following clinical features :
1. Low back pain
2. Saddle anaesthesia
3. Motor weakness in the lower extremities
4. Variable rectal and urinary symptoms
Which of the above features may be present in a patient with Cauda Equina syndrome ?
(a) 3 and 4 only
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

35. Which one of the following drugs is a long acting local anaesthetic agent ?
(a) Lignocaine
(b) Bupivacaine
(c) Prilocaine
(d) Ropivacaine

36. A patient with head injury with a Glasgow Coma Scale of 10 is classified as :
(a) Minor injury
(b) Mild injury
(c) Moderate injury
(d) Severe injury

37. Gas Gangrene resulting in crepitus in tissues and a sweet smelling brown exudate is caused due to infection by :
(a) Anaerobic bacteroides spp.
(b) Clostridium perfringens
(c) Gas-forming Klebsiella spp.
(d) Synergistic bacteria

38. Which of the following are the common complications associated with enteral nutrition in postoperative patients ?
1. Tube malposition, displacement
2. Diarrhoea, constipation
3. Predisposition to systemic sepsis
4. Electrolytic imbalance
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

39. Which of the following are correct regarding Blood substitutes ?
1. They are biomimetic.
2. They are extensively used in war injuries.
3. They are made of perfluorocarbon emulsions.
4. They are haemoglobin-based.
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

40. Ischaemia-Reperfusion syndrome is characterized by :
(a) Hypoxia and activation of inflammation
(b) Thrombo embolic angiopathy
(c) Acute mesenteric thrombosis
(d) Build up of bicarbonate and Na+ ions

41. The daily requirement of iron during second half of pregnancy is :
(a) 2 mg per day
(b) 6 mg per day
(c) 10 mg per day
(d) 20 mg per day

42. Carbohydrate metabolism in normal pregnancy shows :
(a) Fasting hypoglycaemia
(b) Postprandial hypoglycaemia
(c) Increased sensitivity of insulin receptors in mother
(d) Decreased plasma glucagon levels

43. A typical case of Iron Deficiency Anaemia (IDA) in pregnancy will show which of the following ?
1. Hb less than 10 gm%

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2. PCV less than 30%
3. MCHC more than 30%
4. Microcytic hypochromic picture on peripheral blood smear (PBS)

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

44. Which of the following are the clinical features of molar pregnancy ?
1. History of amenorrhea and vaginal bleeding
2. Patient has excessive vomiting
3. History of expulsion of grape-like vesicles

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

45. Which of the following vaccines can be given to a pregnant woman ?
1. COVID vaccine
2. Measles, Mumps, Rubella vaccine
3. Hepatitis B vaccine
4. Rabies vaccine

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

46. Which of the following are the characteristics of true labour pains ?
1. Intensity and duration of contractions increase progressively
2. Progressive effacement and dilatation of the cervix
3. Formation of the 'bag of forewaters'
4. Pain is confined to lower abdomen and groin

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

47. Which are the parts of active management of third stage of labour ?
1. Injection oxytocin 10 units IM within 1 minute of delivery of baby
2. Injection oxytocin 10 units IM at the birth of first twin in twin pregnancy
3. Controlled cord traction
4. Delayed cord clamping as per indications

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

48. Which of the following are correct regarding acute mastitis ?
1. It usually occurs in first 2 – 4 weeks postpartum.
2. Microscopic examination of breast milk shows leukocyte count more than 10^6/mL and bacterial count more than 10^3/mL.
3. Common organisms are bacteroids, E. coli and Klebsiella.
4. The source of infection is infant's nose and throat.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

49. As per the classification of Obstetric Anal Sphincter Injury (RCOG-2007), tear of greater than 50% of External Anal Sphincter is of degree :
(a) 3c
(b) 2c
(c) 3b
(d) 3a

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50. What are the causes of lactation failure after delivery ?
1. Infrequent suckling
2. Depression or anxiety state in the puerperium
3. Prolactin inhibition

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

51. Secondary arrest of dilatation during the process of labour may be due to which of the following factors ?
1. Poor uterine contractions
2. Cessation of cervical dilatation despite strong uterine contractions
3. Disproportion and malpresentation

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

52. First stage of labour starts from :
(a) full dilatation of cervix to the expulsion of the fetus from the birth canal
(b) maternal bearing down efforts and ends with the delivery of the baby
(c) the onset of true labour pains and ends with the full dilatation of cervix
(d) the formation of bag of waters

53. Vesicovaginal fistula is classified as complicated if it has which of the following features ?
1. Size – more than 3 cm
2. Bladder involvement – Supratrigonal
3. Location – Midvaginal
4. Presence of prior radiation

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

54. Which of the following set of muscles collectively form the muscle 'Levator Ani' that forms the pelvic floor ?
1. Ischiococcygeus
2. Pubococcygeus
3. Sacrococcygeus
4. Iliococcygeus

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

55. Blood supply to the uterus comes from which of the following arteries ?
1. Ovarian artery
2. Vaginal artery
3. Uterine artery
4. Inferior vesical artery

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

56. Which one of the following is a prerequisite for Endometrial Ablation ?
(a) Uterus is 12 – 14 weeks size
(b) Woman wants to preserve her reproductive function
(c) Fibroids 3 cm in size
(d) Woman who prefers to preserve her uterus

57. Which of the following day of menstrual cycle is best for endometrial sampling to diagnose ovulation?
(a) 8th – 10th day
(b) 12th – 14th day
(c) 16th – 20th day
(d) 21st – 23rd day

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58. A 27-year-old female married for 3 years regularly cohabiting with husband presents to Gynaecology OPD with complaints of inability to conceive for 2 years. During clinical evaluation hysterosalpingography was done which revealed irregular outline of uterine cavity and rigid fallopian tubes with nodulations. Most likely cause for this condition is :
(a) Genital Herpes
(b) Syphilis
(c) Genital Tuberculosis
(d) Gonorrhoea

59. NACO (National AIDS Control Organization) in India works towards which of the following causes ?
1. Screening high risk cases of HIV
2. Facilitating adoption of orphans
3. Public education towards safe sex
4. Treating HIV cases free of cost

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

60. Prophylactic oophorectomy is recommended in high risk women with which of the following ?
1. Carrying BRCA1 or BRCA2 genes
2. Family history of breast, colon, ovarian cancer
3. Patients having tubo-ovarian abscess

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

61. 'Schiller-Duval body' is a characteristic histological feature of which one of the following cancers ?
(a) Dysgerminoma
(b) Endodermal sinus tumour
(c) Non-gestational ovarian choriocarcinoma
(d) Sex cord stromal tumours

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62. Which one of the following is the distinguishing feature to differentiate Gartner's cyst from Cystocele ?
(a) Marked cough impulse in Gartner's cyst
(b) Margins are ill-defined in Gartner's cyst
(c) There is no impulse on coughing in cystocele
(d) Gartner's cyst is not reducible

63. Surgical treatment by 'ventrosuspension of uterus' is used for what condition ?
(a) Pelvic organ prolapse
(b) Retroversion of uterus
(c) Rupture of uterus
(d) Vault prolapse

64. A 29-year-old female with 3 months amenorrhoea presents to gynaecology OPD with complaints of something coming out of her vagina. On clinical evaluation she was found to have single live pregnancy with second degree uterine prolapse. Which one of the following is the best management plan for her ?
(a) Reassurance
(b) Cervical amputation
(c) Cerclage operation
(d) Pessary treatment

65. During delivery of HIV infected women, which of the following are recommended ?
1. Zidovudine (ZDV) is given at the onset of labour.
2. Elective caesarean delivery reduces the risk of vertical transmission.
3. Amniotomy and oxytocin augmentation should be done.
4. Antiretroviral therapy should be given to all neonates.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

66. Which of the following can be a complication in the baby due to post maturity of pregnancy ?
1. Meconium aspiration

2. Hypoglycemia
3. Intra ventricular haemorrhage
4. Polycythemia

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

67. Intrahepatic cholestasis of pregnancy presents with which of the following features ?
1. Pruritus after 28 weeks gestation, especially in palms and soles
2. Serum bilirubin levels 5 mg%
3. Raised levels of serum bile acids
4. Features subside within two weeks postpartum

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

68. Which of the followings are blood values of Iron Deficiency Anaemia ?
1. Serum iron is less than 30 μg/100 mL
2. Total iron binding capacity is less than 400 μg/dL
3. Percentage saturation is 10% or less
4. Serum ferritin is below 30 μg/mL

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

69. Clinical features of an infant with Fetal growth retardation at birth include which of the following ?
1. Physical features give 'an old man look'.
2. Baby is alert, reflexes are normal.
3. There is presence of weight deficit.
4. Thick fat accumulates around shoulders of baby.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

70. Which of the following are correct regarding 'Chhaya' contraceptive ?
1. It has potent anti-estrogenic and weak estrogenic property.
2. Failure rate is 1 – 4 per HWY (Hundred Women Years) of use.
3. It inhibits ovulation.
4. It creates asynchrony between zygote and endometrium.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

71. Which of the following are examples of LARC (Long Acting Reversible Contraceptives) ?
1. Copper-T 380A
2. Implants
3. LNG-IUS

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

72. How many times in a year does withdrawal bleeding occur in extended continuous regimens of combined oral contraceptive pills ?
(a) 3
(b) 4
(c) 5
(d) 6

73. Bilateral total salpingectomy is recommended surgical procedure to reduce the risk of :
(a) Epithelial ovarian cancer
(b) Uterine cancer
(c) Fallopian tube cancer
(d) Peritoneal cancer

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74. Tongue bite occurs in eclampsia at :
(a) Tonic stage
(b) Clonic stage
(c) Coma stage
(d) Postictal stage

75. Indication for removal of IUDs include which of the following ?
1. Perforation of uterus
2. Pregnancy with device in situ
3. One year after menopause
4. Persistent migraine
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

76. Which of the following are the absolute contraindications for the use of combined oral contraceptive pills ?
1. Severe hypertension
2. Pregnancy
3. Diabetes with retinopathy
4. Gall bladder disease
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

77. A 27-year-old recently married female comes to family planning clinic requesting for long term reversible contraception. Which one of the following is the best suited option for her ?
(a) Combined oral contraceptives
(b) Diaphragm
(c) Nexplanon
(d) Chhaya

78. Which one of the following is an indication for cold knife conisation ?
(a) Treatment of Nabothian follicle on ectocervix
(b) Inconsistent findings of colposcopy, cytology and directed biopsy
(c) Negative endocervical curettage
(d) Squamous cell carcinoma cervix stage IIA

79. Which of the following statements are correct regarding female sterilization ?
1. It can be done 24 – 48 hours following delivery.
2. Ideal time for interval ligation is luteal phase preceding menstruation.
3. It can be combined with medical termination of pregnancy.
4. It is a preventive measure against serous ovarian cancer.
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

80. The most popular technique of tubal ligation is :
(a) Madlener Operation
(b) Pomeroy Technique
(c) Uchida method
(d) Cornual resection

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81. Which one of the following is defined as 'the average number of children a woman would have if she were to pass through her reproductive years, bearing children at the same rates as the women now in each age group' ?
(a) Age-Specific Fertility Rate (ASFR)
(b) General Fertility Rate (GFR)
(c) Net Reproduction Rate (NRR)
(d) Total Fertility Rate (TFR)

82. Which among the following is correct about yellow fever vaccination requirement for international travellers ?
1. Term of validity of the certificate is changed from 10 years to the duration of the life of the vaccinated person, some years ago.
2. Lifetime validity of the certificate applies automatically to all existing and new certificates.
3. Validity of the certificate begins 4 days

after vaccination.
4. In India, booster dose of yellow fever vaccine is required for those whose certificate is prior to the year 2016.

Select the correct answer using the code given below:
(a) 1 and 2
(b) 1 and 3
(c) 2 and 3
(d) 2 and 4

83. Regarding active immunization against Typhoid fever, consider the following statements :
1. The typhoid polysaccharide vaccine is injectable and can be given subcutaneously or intramuscularly.
2. The typhoid polysaccharide vaccine is required to be given in two doses and administered on 0 and 7th day.
3. The typhoid oral Ty21a vaccine requires to be given in three doses on 0, 3rd and 7th days.
4. Protective immunity with typhoid vaccines is achieved immediately after the vaccine is received.

Which of the statements given above is/are correct ?
(a) 1 only
(b) 1, 3 and 4
(c) 1 and 2 only
(d) 2 only

84. Which of the following statements are correct regarding Mantoux test for tuberculosis ?
1. It entails injecting 1 TU (Tuberculin Unit) of PPD (Purified Protein Derivative) in 0·1 mL intradermally.
2. The injection should be given with the needle bevel facing downward.
3. When placed correctly, the injection should produce a pale wheal of the skin, 1 – 2 mm in diameter.
4. The injection should be given with a tuberculin syringe.

Select the correct answer using the code given below:
(a) 1 and 2
(b) 1 and 4
(c) 2 and 3
(d) 2 and 4

85. Which one among the following types of ventilation, best fits the following description – 'A system of ventilation in which fresh air is blown into the room by centrifugal fans so as to create a positive pressure, and displace the vitiated air'?
(a) Exhaust ventilation
(b) Balanced ventilation
(c) Natural ventilation
(d) Plenum ventilation

86. The 'Nalgonda Technique' developed by the National Environmental Engineering Research Institute (NEERI) was developed primarily for the removal of which one of the following from water ?
(a) Asbestos
(b) Fluorine
(c) Chlorine
(d) Iron

87. Smoking is considered to be a modifiable risk factor for Coronary Heart Disease. Consider the following statements with regard to possible mechanisms on the basis of which it acts as a risk factor :
1. Nicotine stimulation of adrenergic drive raises the blood pressure and myocardial oxygen demand.
2. It increases carbon monoxide and induces atherogenesis.
3. It leads to fall in protective high density lipoproteins.
4. It reduces the apolipoprotein-B plasma levels.

Which of the statements given above are correct ?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 1, 2 and 3
(d) 2, 3 and 4

88. The expected outcome of Government of India's initiative 'SUMAN' is :
(a) Zero preventable maternal and newborn deaths

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(b) Limit preventable maternal and newborn deaths to between 0·5 – 1%
(c) Limit preventable maternal and newborn deaths to between 1 – 2%
(d) Limit preventable maternal and newborn deaths to between 2 – 5%

89. Water contamination with high content of which chemical can lead to methaemoglobinaemia ?
(a) Cyanide
(b) Nitrate
(c) Fluoride
(d) Sulphide

90. With reference to human body's requirement for proteins, they are essential because they are :
1. a key supply source for energy.
2. required for maintenance of osmotic pressure within the intravascular compartment.
3. critical for upkeep of cell mediated immune response.
4. vital for the synthesis of certain hormones.
Which of the statements given above are correct ?
(a) 1, 3 and 4
(b) 1, 2 and 4
(c) 2, 3 and 4
(d) 1, 2 and 3

91. Which food proteins among the following are considered to be the best and are used in nutritional studies as 'reference protein' ?
(a) Milk proteins
(b) Egg proteins
(c) Wheat proteins
(d) Legume proteins

92. Consider the following statements with reference to 'trans fatty acids':
1. They are geometrical isomers of cis-unsaturated fatty acids.
2. Though atherogenic, being unsaturated they are less so than saturated fatty acids.
3. It takes years for trans fatty acids to be flushed from the body.
4. They lower both LDL cholesterol and HDL cholesterol in the body.
Which of the statements given above are correct ?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 1, 2 and 3
(d) 2, 3 and 4

93. Consider the following disorders :
1. Delayed motor milestones
2. Extrapyramidal spasticity
3. Nyctalopia
4. Hearing defects
Which of the above disorders occur as part of the spectrum of iodine deficiency disorders ?
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 2, 3 and 4
(d) 1, 2 and 4

94. With reference to occupational cancers, consider the following statements :
1. Skin cancer is a common occupational hazard in workers employed in nickel and chromium work.
2. Cancer bladder is an occupational hazard in workers employed in dye-stuffs and dyeing industry.
3. Leukaemia can occur on long exposure to benzol.
4. Lung cancer is typically found in workers employed in electric cable industries.
Which of the statements given above are correct ?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 and 4 only
(d) 1 and 4 only

95. If, on amniocentesis, the alpha fetoprotein is found to be elevated in the amniotic fluid, which defect/disorder is the foetus likely to harbour ?
(a) Cardiac septal defects
(b) Neural tube defects
(c) Duchenne muscular dystrophy
(d) Galactosaemia

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96. Which of the following are domains (or types) of learning ?
1. Affective learning
2. Cognitive learning
3. Physiological learning
4. Psychomotor learning

Select the correct answer using the code given below:
(a) 1, 3 and 4
(b) 2, 3 and 4
(c) 1, 2 and 3
(d) 1, 2 and 4

97. Which of the following are beneficiaries of services provided under the Integrated Child Development Scheme (ICDS) ?
1. Adolescent boys
2. Adolescent girls
3. Pregnant women
4. Children less than 6 years of age

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

98. Which of the following correctly represent the three critical determinants of a healthy facility being declared as a First Referral Unit (FRU) ?
1. Availability of emergency obstetric surgical interventions
2. Availability of immunization services
3. Blood storage facility
4. Newborn care

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 2, 3 and 4

99. What is the correct increasing order of minimum age at which the following vaccines are administered to a child, as part of the National Immunization Schedule (NIS) after birth of child ?
1. BCG vaccine
2. Japanese Encephalitis (JE) vaccine
3. Rotavirus vaccine
4. Tetanus and adult diphtheria (Td) vaccine

Select the correct answer using the code given below:
(a) $1 \rightarrow 2 \rightarrow 3 \rightarrow 4$
(b) $1 \rightarrow 3 \rightarrow 2 \rightarrow 4$
(c) $2 \rightarrow 3 \rightarrow 4 \rightarrow 1$
(d) $3 \rightarrow 1 \rightarrow 4 \rightarrow 2$

100. Under the National Leprosy Eradication Programme, ASHAs have been entrusted to carry out which of the following activities ?
1. ASHAs are to search for suspected cases of leprosy in their villages and take them to the PHCs for diagnosis and treatment.
2. ASHAs arrange an amount of ₹ 5,000 as an incentive to each leprosy affected person in their village for undergoing reconstructive surgery.
3. ASHAs ensure that each leprosy affected person in their village receives micro-cellular rubber footwear for protection of insensitive feet.
4. ASHAs follow up all confirmed cases of leprosy in their village to ensure their treatment completion.

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 4 only
(d) 3 and 4 only

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101. The cost of implementation of 'Ayushman Bharat Pradhan Mantri Jan Arogya Yojana' is borne by :
(a) Central Government only
(b) State Government only
(c) Both Central Government and State Government
(d) Private institutions only as a part of their Corporate Social Responsibility

102. All of the following are dashboard indicators used for monitoring of India Newborn Action Plan (INAP). Which one of them is an 'impact level indicator'?
(a) Caesarean section rate
(b) Neonatal mortality rate
(c) Exclusive breastfeeding rate
(d) Percentage of preterm births

103. Which of the following are health education models ?
1. Medical model
2. Motivation model
3. Persuasion model
4. Social intervention model

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

104. Who among the following has two general phases – first, simple pneumoconiosis and a second phase characterized by progressive massive fibrosis (PMF)?
(a) Anthracosis
(b) Bagassosis
(c) Byssinosis
(d) Siderosis

105. Consider the following statements about correlation between two variables :
1. The correlation is done between an independent variable X and a dependent variable Y.
2. The coefficient of correlation can range from –1 to ∞.
3. If coefficient of correlation (r) is equal to 1, it indicates there is no association between X and Y.
4. Correlation does not necessarily prove causation.

Which of the statements given above is/are correct ?
(a) 1 only
(b) 4 only
(c) 1, 2 and 3
(d) 1 and 4 only

106. With regard to lead poisoning, consider the following statements :
1. Coproporphyrin in urine is a useful screening test.
2. Hand washing before eating is an important measure of personal hygiene.
3. The use of d-penicillamine has been reported to be effective in management.

How many of the statements given above is/are correct ?
(a) 1 only
(b) 2 only
(c) All three
(d) None

107. A water body was inspected to look for the presence of mosquito eggs. It was observed that there were boat-shaped eggs, laid singly, not in clusters. The eggs also had lateral floats. Which one of the following diseases is most likely to be spread by the mosquito whose eggs were found ?
(a) Chikungunya fever
(b) Dengue fever
(c) Japanese encephalitis
(d) Malaria

108. In the National Health Policy 2017, a target of 90 : 90 : 90 has been set for HIV/AIDS. Which among the following are targets for which a 90% level has been set as part of 90 : 90 : 90 for HIV/AIDS ?
1. Proportion of couples who have safe sex
2. Proportion of people living with HIV who know their HIV status
3. Proportion of adolescents who have access to contraceptives
4. Proportion of people receiving antiretroviral therapy who have viral suppression

Select the correct answer using the code given below:
(a) 1 and 4
(b) 1 and 3
(c) 2 and 3
(d) 2 and 4

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109. The Sample Registration System (SRS), an important source of health information, consists of continuous enumeration of births and deaths by an enumerator and an independent survey every six months by an investigator-supervisor. Which one of the following terms best describes this system ?
(a) Dual-record system
(b) Triple-record system
(c) Double blinding
(d) Double data entry

110. Cross-over type study designs are those in which each patient serves as his/her own control. In which of the following conditions is a cross-over study not suitable ?
1. If the drug of interest cures the disease
2. If the drug is effective during all stages of the disease
3. If the disease changes radically during the period of time required for the study

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) 2 and 3
(d) 1 and 3

111. In which one of the following diseases are the source of infection and reservoir of infection the same ?
(a) Hookworm infection
(b) Cholera
(c) Tetanus
(d) Typhoid

112. Which of the following statements are correct regarding Chikungunya fever ?
1. It is usually transmitted by Culex mosquito.
2. A safe and effective vaccine is available for commercial use.
3. Incubation period is 4 – 7 days.
4. One of the prominent symptoms is arthropathy.

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 3 and 4 only

113. In which one of the following vector-borne diseases, the transmission chain is 'Man – Snail – Man' ?
(a) Fish tapeworm
(b) Malaria
(c) Onchocerciasis
(d) Schistosomiasis

114. Which of the following mosquito-borne diseases are transmitted chiefly by Aedes mosquito ?
1. Dengue
2. West Nile fever
3. Yellow fever
4. Zika fever

Select the correct answer using the code given below:
(a) 1 and 3 only
(b) 1, 2 and 3
(c) 1, 3 and 4
(d) 2 and 4 only

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115. Which one among the following is best defined as the interval of time between receipt of infection by a host and maximal infectivity of that host ?
(a) Generation time
(b) Latent period
(c) Incubation period
(d) Serial interval

116. Consider the following vaccines :
1. BCG Vaccine
2. Hepatitis B Vaccine
3. Inactivated Polio Vaccine (IPV)
4. Oral Polio Vaccine (OPV)

What is the correct order of the above vaccines as per their sensitivity to heat (most sensitive to least sensitive) given in the National Immunization Schedule (NIS) ?
(a) $4 \rightarrow 3 \rightarrow 2 \rightarrow 1$
(b) $2 \rightarrow 1 \rightarrow 3 \rightarrow 4$
(c) $2 \rightarrow 1 \rightarrow 4 \rightarrow 3$
(d) $4 \rightarrow 3 \rightarrow 1 \rightarrow 2$

117. Exposure to gases is a common hazard in industries. The gases can be classified as simple, asphyxiating and anaesthetic gases. Which among the following are asphyxiating gases?

1. Carbon monoxide
2. Chloroform
3. Cyanide gas
4. Hydrogen

Select the correct answer using the code given below:

(a) 1 and 3
(b) 1 and 4
(c) 2 and 3
(d) 2 and 4

118. The Employees State Insurance Act, 1948 of India provides for certain benefits to employees. Which among the following are benefits to insured persons or to other dependents under the Act ?

1. Disablement benefit
2. Funeral expenses
3. Maternity benefit
4. Travel benefit

Select the correct answer using the code given below:

(a) 1 and 3 only
(b) 2 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

119. Which among the following vaccines best represent interventions that focus on cancer prevention too ?

1. Hepatitis A vaccine
2. Hepatitis B vaccine
3. Hemophilus influenzae B vaccine
4. Human papilloma virus vaccine

Select the correct answer using the code given below:

(a) 1 and 2
(b) 2 and 3
(c) 2 and 4
(d) 1 and 4

120. Consider the following statements :

Statement-I : While calculating the number of expected pregnancies per year in an area, a correction factor (usually 10%) is added to the expected number of live births in the year in the area.

Statement-II : All the pregnancies in the area may not be registered by the health worker in the area.

Which one of the following is correct in respect of the above statements ?

(a) Statement-I and Statement-II are independently correct, and Statement-II is a correct explanation for Statement-I.
(b) Statement-I and Statement-II are independently correct, but Statement-II is not a correct explanation for Statement-I.
(c) Statement-I is correct but Statement-II is incorrect.
(d) Statement-I is incorrect but Statement-II is correct.

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PAPER 2023 ANSWERS

1. (d) 4 : 1

During wound healing, especially in the later remodeling phase, Type I collagen gradually replaces the initially laid-down Type III collagen. By the time the scar matures, the predominant form is Type I collagen, leading to an approximate 4:1 ratio of Type I to Type III. This shift ensures greater tensile strength of the healed tissue. Early in repair, Type III is more abundant, but the final stable scar contains mostly Type I, which is stronger and more cross-linked.

2. (b) It is caused by C. perfringens, a gram positive anaerobic spore-forming bacilli.

Gas gangrene is most commonly due to Clostridium perfringens, which is a Gram-positive, rod-shaped, spore-forming, obligate anaerobe. It produces potent toxins that lead to rapidly spreading myonecrosis and gas formation within tissues. The presence of spores allows the organism to survive in harsh conditions, and once activated in deep, anaerobic wounds, it multiplies and releases toxins that destroy muscle and soft tissue. Correct identification and urgent management (debridement, antibiotics, and supportive care) are crucial for survival.

3. (a) Tumour

The Gompertzian growth curve describes how most tumors grow in a characteristic sigmoidal pattern: initially accelerating (when the tumor is small), then slowing as the tumor enlarges and outstrips its blood supply and nutrients. Early on, cancer cells divide more rapidly, but as cell density increases, the growth fraction declines and the rate of expansion diminishes. This model helps explain why chemotherapy is most effective against small, rapidly growing tumors and why larger tumors often respond less dramatically.

4. (b) Herniotomy

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In a child older than about 2 years with a persistent, nonreducible scrotal swelling that appears and disappears over the course of the day, a congenital hydrocele or a patent processus vaginalis is likely. While "masterly inactivity" is reasonable in very young children (under 1–2 years) to allow spontaneous closure, persistence at age 5 years typically warrants surgical intervention. Herniotomy (i.e., ligation and division of the sac at the internal ring) is the definitive treatment in such cases and prevents complications.

5. (a) Percutaneous embolization of gonadal veins

These findings describe a varicocele—dilated pampiniform plexus veins that feel like a "bag of worms" and typically decompress when the patient lies down. Modern management often begins with a minimally invasive endovascular approach. Percutaneous embolization of the gonadal (testicular) vein can provide relief of symptoms and improvement in fertility parameters. This approach avoids a surgical incision, has a good success rate, and allows quick recovery. Surgical ligation remains an option if embolization is unavailable or unsuccessful.

6. (d) Deep vein thrombosis

A painful, swollen calf following major abdominal surgery—especially in an older, malnourished patient—is highly suggestive of deep vein thrombosis (DVT). Prolonged bed rest, dehydration, and hypercoagulability (as part of Virchow's triad) predispose postoperative patients to venous thrombosis. Calf tenderness, increased leg circumference, and pain on dorsiflexion (Homan's sign, though nonspecific) also point toward DVT. Prompt diagnosis (Doppler ultrasound) and treatment (anticoagulation) are essential to prevent life-threatening complications such as pulmonary embolism.

7. (a) 1, 2 and 3

A "Salmon patch" (nevus simplex) is traditionally viewed in some texts as a very superficial capillary hemangioma. It commonly appears on the nape of the neck ("stork bite"), eyelids, or glabella in newborns. It is indeed frequent in children and is often benign, fading over time without intervention. Surgical excision (statement 4) is typically unnecessary for these flat capillary lesions because most regress spontaneously. Hence statements 1, 2, and 3 are accepted as correct under older classifications describing it as a form of hemangioma.

8. (c) 1, 3 and 4

Klippel-Trenaunay syndrome is classically characterized by a triad: (1) port-wine stain or capillary malformation (cutaneous nevus), (2) varicose veins or venous malformations, and (3) hypertrophy of bone and soft tissues (leading to limb enlargement). Subcutaneous lipomas are not a cardinal feature of this syndrome. The cutaneous nevus is usually present at birth, and the progressive limb overgrowth and varicosities become evident as the patient grows. Management may require compression therapy, orthopedic intervention, or surgery for complications.

9. (c) Common femoral vein, Common femoral artery and Great Saphenous vein

On transverse ultrasound imaging in the groin region, the common femoral artery and the common femoral vein (side by side) with the great saphenous vein entering medially create a pattern that resembles Mickey Mouse's head and ears. The "head" is typically the common femoral vein, the "ear" the common femoral artery, and the other "ear" the saphenous vein. Recognizing this classic arrangement helps identify vascular structures quickly and is important for venous access, cannulation, and evaluating for deep vein thrombosis.

10. (c) 1, 3 and 4

A thyroglossal duct cyst is usually found in the midline of the neck (statement 1). Classically, it rises with both swallowing and protrusion of the tongue, so statement 2 ("not on tongue protrusion") is incorrect. Surgical removal is via the Sistrunk operation, which includes excision of the cyst, middle part of the hyoid bone, and tract up to the base of the tongue (statement 3). In some cases, ectopic thyroid tissue in the duct may be the patient's only functioning thyroid (statement 4).

11. (a) Speckled leucoplakia

"Speckled leukoplakia," also called erythroleukoplakia, shows both white (leukoplakic) and red (erythroplakic) areas. The presence of a bright red velvety region on a white background is typical of speckled lesions and indicates a high risk for malignant transformation. Pure leukoplakia (entirely white) or pure erythroplakia (entirely red) is different. The mixed pattern is particularly worrisome, and in a heavy tobacco user with restricted mouth opening, dysplasia or early malignancy must be ruled out via biopsy and appropriate management.

12. (a) Tuberculosis (Tuberculosis)

A "collar-stud" abscess typically refers to a cold abscess associated with tuberculosis, in which the infection creates a deep pocket that tracks through tissue planes and presents with a subcutaneous fluctuant swelling. The superficial aspect of the abscess can appear small (like the "stud" on the surface), while there is a deeper component beneath the fascia (the "collar"). Tuberculosis often causes such cold abscesses because of its indolent, chronic course, allowing large pockets of pus to form with minimal acute inflammatory signs.

13. (c) Transverse rectus abdominis myocutaneous flap

A TRAM flap uses the patient's own abdominal skin, fat, and rectus muscle to recreate the breast mound, generally yielding a more natural shape, feel, and contour compared to an implant. Autologous tissue reconstruction often ages more naturally with the patient's body and can deliver superior cosmetic outcomes overall. Though latissimus dorsi flaps and implants are viable options, and acellular dermal matrix can assist implant-based reconstructions, the TRAM flap (or variants like the DIEP flap) is especially noted for its aesthetic results.

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14. (a) 1, 2 and 3

A trichobezoar is a mass of hair accumulated in the stomach, often due to trichophagia (hair-eating), which itself is commonly linked to psychiatric disorders like trichotillomania. This hair mass can cause gastric outlet obstruction, ulceration, bleeding, or perforation. Merely giving proton pump inhibitors (statement 4) does not resolve the large hair concretion; removal (endoscopic if small, surgical if large) plus addressing the underlying psychiatric issue is required. Hence, the first three statements are correct descriptions of this condition.

15. (c) Internal pudendal artery (Internal pudendal artery)

The inferior rectal artery arises from the internal pudendal artery, itself a branch of the internal iliac artery. It supplies the lower anal canal and perianal region. In contrast, the superior rectal artery (from the inferior mesenteric artery) supplies the upper rectum, while the middle rectal artery (from the internal iliac) supplies the middle portion. Understanding these vascular territories is critical for procedures such as hemorrhoid surgery, where knowledge of arterial supply can influence both surgical approach and risk of bleeding.

16. (a) 1, 2 and 3

Zollinger-Ellison syndrome (ZES) involves a gastrin-secreting tumor (gastrinoma), typically arising from the non-beta islet cells of the pancreas (or duodenum), which leads to hypergastrinemia and massive acid hypersecretion. As a result, patients present with severe or fulminant peptic ulcers, often multiple and resistant to standard ulcer therapies. Dysentery (statement 4) is not a typical feature of ZES. Diagnosis often requires measuring elevated gastrin levels, imaging for the gastrinoma, and managing acid hypersecretion and tumor removal if possible.

17. (c) 1, 3 and 4

Meckel's diverticulum arises from a persistent vitellointestinal (omphalomesenteric) duct (statement 1). It is a true diverticulum because it contains all layers of the bowel wall, so calling it a "pseudo diverticulum" (statement 2) is incorrect. It typically appears on the antimesenteric border of the ileum (statement 3), about 2 feet proximal to the ileocecal valve. Heterotopic tissue (gastric or pancreatic) is present in around 20% of cases (statement 4), which can cause bleeding or ulceration.

18. (d) 1, 2 and 4

Left-sided colon cancers often present with altered bowel habits and rectal bleeding (statement 1). Right-sided tumors more commonly cause occult blood loss and iron deficiency anemia (statement 2). While some recent data suggest increasing right-sided cases, historically left-sided lesions were considered more common, so statement 3 is not universally accepted in this context. Colonoscopy (statement 4) remains the gold-standard diagnostic tool to visualize the lesion, obtain biopsies, and help plan treatment, making statements 1, 2, and 4 correct here.

19. (c) 1, 3 and 4

Small, contained esophageal perforations—particularly those caused by a flexible endoscope (statement 1) and associated with low contamination (small septic load, statement 3)—can often be managed conservatively with antibiotics, nil by mouth, and drainage as needed. Perforation of the abdominal esophagus (statement 4) may also be amenable to non-operative treatment if discovered early, well-contained, and with minimal soilage. In contrast, free perforation into the mediastinum with extensive contamination typically necessitates surgical intervention to prevent fulminant mediastinitis.

20. (c) 1, 3 and 4

Familial Adenomatous Polyposis (FAP) results from a germline mutation in the APC gene on chromosome 5q (statement 1) and follows an autosomal dominant pattern (so statement 2 is incorrect). Without prophylactic colectomy, patients with FAP face virtually a 100% lifetime

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risk of developing colorectal cancer (statement 3). Congenital hypertrophy of the retinal pigment epithelium (CHRPE) is a known extra-colonic manifestation and may appear in roughly half of FAP cases (statement 4). Early identification and surveillance are critical.

21. (d) Perianal disease is common in Crohn's disease.

Crohn's disease can affect any segment of the gastrointestinal tract from mouth to anus and often involves the full thickness of the bowel wall, leading to complications such as fistulas, strictures, and especially perianal disease (fissures, fistulas, abscesses). By contrast, Ulcerative Colitis is limited to the colonic mucosa and submucosa in a continuous fashion, almost always involving the rectum. Crohn's may spare the rectum and present with skip lesions. Hence, perianal disease is a typical feature of Crohn's.

22. (b) Variceal bleeding.

A Sengstaken-Blakemore tube has gastric and esophageal balloons that can be inflated to tamponade bleeding esophageal varices—most often caused by portal hypertension. In urgent situations where endoscopic or other measures are not immediately available or have failed, this tube can help compress the varices and temporarily control hemorrhage. It is not used for corrosive poisoning, asphyxia, or tension pneumothorax; those conditions require very different interventions (e.g., endoscopy for corrosives, airway support for asphyxia, needle decompression for tension pneumothorax).

23. (b) Haemangioma.

Cavernous hemangioma is the most common benign liver tumor. Often discovered incidentally on imaging (e.g., ultrasound, CT, or MRI), it seldom causes symptoms unless it becomes quite large. Pathologically, it consists of vascular channels lined by endothelium. Although most hemangiomas require no treatment, very large lesions or those that become symptomatic (e.g., causing pain or compression) might need intervention. In contrast, hepatic adenomas are less common, can be influenced by hormonal factors, and carry a risk of bleeding or malignant transformation.

24. (b) Palpation of left subcostal area in right lateral decubitus position.

When the patient lies on the right side (right lateral decubitus) and slightly flexes the hips and knees, gravity brings an enlarged spleen more anteriorly and inferiorly, making it easier to feel just below the left costal margin. This maneuver (sometimes referred to as Nixon's method) is often the most sensitive for detecting small or minimally enlarged spleens. Supine or knee-elbow positions do not enhance splenic palpation as reliably as turning the patient on their right side.

25. (c) Subphrenic abscess.

A subphrenic abscess can develop after upper abdominal surgeries (e.g., perforated duodenal ulcer repair) due to contamination or incomplete drainage beneath the diaphragm. The classic referred pain in the right shoulder tip arises from diaphragmatic irritation (phrenic nerve referral, C3–C5). Persistent or high fever, chills, and toxin-related symptoms several days postoperatively, along with hiccups, strongly suggest a collection under the diaphragm rather than a superficial wound infection. Timely imaging (ultrasound or CT) helps confirm the diagnosis and guides drainage.

26. (b) Mesentery.

"Seat belt syndrome" often involves sudden deceleration injuries, leading to tears or lacerations in the small bowel mesentery. The shearing forces generated where the mesentery is fixed can cause vascular injury and subsequent hemorrhage or hematoma. While bowel and solid organ injuries (liver, spleen) are also possible in trauma, the mesentery is classically described as a common site of significant bleeding and/or avulsion with a lap belt mechanism. Prompt imaging and surgical assessment are vital in these cases.

27. (c) Peritoneal malignancy.

Exudative ascites typically occurs when there is significant peritoneal inflammation or

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infiltration (e.g., malignancy, tuberculosis), leading to high protein content and high specific gravity fluid in the peritoneal cavity. In contrast, conditions like congestive heart failure and nephrotic syndrome usually produce transudative ascites, characterized by low protein content. Portal vein thrombosis can also lead to portal hypertension and generally a transudative pattern. Peritoneal carcinomatosis (malignancy) remains one of the most common causes of exudative ascites.

28. (b) It is a technique to assess free fluid in abdominal cavity, thoracic cavity and pericardium.

The extended Focused Assessment with Sonography in Trauma (eFAST) expands on the traditional FAST exam by including quick ultrasound views of the thorax to check for pleural fluid (hemothorax) or absence of lung sliding (pneumothorax), in addition to looking for free fluid in the pericardium and peritoneal cavity. It is a rapid, noninvasive bedside tool to detect internal bleeding or a tamponade. Thus, it addresses the abdomen, pericardium, and thorax—not just the abdominal cavity.

29. (b) Colovesical fistula.

Frothy or bubbly urine often suggests that air is entering the urinary tract. One common cause is a colovesical fistula, typically arising from diverticular disease, malignancy, or Crohn's, wherein the colon and bladder form an abnormal connection. Feculent material or gas can pass into the bladder and produce recurrent urinary tract infections, as well as "bubbly" or malodorous urine. Anaerobic bacterial infection, tuberculosis of the bladder, or a urethrocutaneous fistula do not characteristically present with frothy urine.

30. (d) 3 and 4 only

Normal Pressure Hydrocephalus (NPH) is a neurological disorder characterized by the triad of gait disturbance, urinary incontinence, and cognitive decline. This condition results from an abnormal accumulation of cerebrospinal fluid (CSF) in the brain's ventricles, leading to ventricular enlargement without a significant increase in intracranial pressure.

1. Gait Disturbance: Gait disturbance is often the earliest and most prominent symptom in NPH. Patients typically present with a "magnetic gait," characterized by short, shuffling steps and difficulty initiating walking.
2. Incontinence: Urinary incontinence is also a hallmark of NPH, often presenting as urgency or frequency, progressing to loss of bladder control.
3. Cognitive Decline: Cognitive impairment in NPH often resembles dementia, with symptoms such as memory loss, difficulty with problem-solving, and slowed mental processing. However, unlike other forms of dementia, the cognitive decline in NPH can be reversible with appropriate treatment.
4. Hearing Loss: Hearing loss is not a recognized feature of NPH. Its presence would suggest an alternative or additional diagnosis.

Since options 3 (incontinence) and 4 (cognitive decline) are key features of NPH, the correct answer is (d) 3 and 4 only.

31. (c) 1, 3 and 4.

Major recognized functions of the larynx include (1) chest fixation for straining maneuvers (via glottic closure), (3) phonation or voice production (vocal folds), and (4) respiration (controlling airflow). While the larynx protects the airway during swallowing—preventing aspiration—most standard classifications do not list "aiding in swallowing food" as a direct function; swallowing is primarily coordinated by the pharynx and upper esophageal mechanisms. Thus, statements 1, 3, and 4 are the traditionally accepted functions.

32. (a) 1, 2 and 3.

The classic triad in cardiac tamponade (Beck's triad) consists of hypotension (decreased arterial pressure), distant/muffled heart sounds, and jugular venous distension (i.e., raised neck veins). Tachycardia (1) is also commonly present due to sympathetic drive. "Collapsed neck veins" (4) does not fit tamponade; one

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typically sees distended neck veins. Thus, statements 1 (tachycardia), 2 (muffled heart sounds), and 3 (decreased arterial pressure) align with this dangerous condition requiring urgent intervention (pericardiocentesis).

33. (b) Thymoma.

The Masaoka (or Masaoka-Koga) staging system is specifically used to stage thymomas. It classifies them based on local invasion of surrounding tissues—such as the capsule, mediastinal fat, pericardium, or great vessels—and more distant spread. This staging has important prognostic implications and guides surgical resectability and adjuvant therapy. Germ cell tumors (testicular/ovarian), lymphomas, and neurogenic tumors follow different staging systems (e.g., Ann Arbor for lymphoma, WHO classification for germ cell tumors, etc.).

34. (d) 1, 2, 3 and 4.

Cauda Equina syndrome arises from compression of the cauda equina nerve roots below the conus medullaris. Classic findings include severe low back pain, saddle anesthesia (loss of sensation in the perineal region), lower limb weakness or reflex changes, and bowel/bladder dysfunction (incontinence or retention). Rectal tone changes are also common. Because multiple nerve roots are affected, the presentation can be varied. This is a neurosurgical emergency requiring rapid imaging (MRI) and often decompression to prevent permanent damage.

35. (b) Bupivacaine.

Among commonly used local anesthetics, bupivacaine is well known for its prolonged duration of action—often 4 to 8 hours or more—making it ideal for procedures requiring extended analgesia (e.g., post-operative pain control). Lignocaine (lidocaine) and prilocaine generally have shorter durations unless combined with adrenaline. Ropivacaine is also relatively long-acting but is often described as having slightly less motor blockade than bupivacaine. In routine practice, bupivacaine is classically cited as the prototypical long-acting local anesthetic.

36. (c) Moderate injury.

The Glasgow Coma Scale (GCS) classifies traumatic brain injury by three components (eye opening, verbal response, motor response). Scores range from 3 (deep coma) to 15 (fully alert). Typically, GCS 13–15 is considered mild head injury, 9–12 moderate, and 8 or below severe. A GCS of 10 thus falls into the moderate category. Proper classification helps guide immediate management, monitoring needs, and possible neurosurgical intervention.

37. (b) Clostridium perfringens.

Clostridium perfringens (a Gram-positive, spore-forming anaerobe) is the most common cause of gas gangrene (clostridial myonecrosis). It releases potent exotoxins that rapidly destroy muscle tissue and produce gas within the tissues, creating crepitus. Patients often notice a characteristic foul or "sweet" smell and brownish discharge. Rapid progression to shock and multi-organ failure can occur without urgent surgical debridement, antibiotics (often high-dose penicillin), and supportive measures. Other organisms can produce gas, but the classic scenario of gas gangrene is usually clostridial.

38. (b) 1, 2 and 4.

Common issues during enteral feeding include mechanical problems (tube malposition, blockage, or accidental displacement), and gastrointestinal side effects (diarrhea or sometimes constipation). Metabolic disturbances such as electrolyte imbalances (especially if feeding is reintroduced rapidly in a malnourished patient) can also occur. While significant systemic sepsis is more often linked with parenteral (intravenous) nutrition, aspiration pneumonia is indeed a risk of enteral feeding; however, "predisposition to systemic sepsis" is not traditionally listed among the most common complications of enteral feeding.

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39. (c) 1, 3 and 4.

So-called "artificial blood" or blood substitutes are meant to mimic certain properties of human blood (biomimetic), primarily oxygen transport. Two main categories have been explored: perfluorocarbon emulsions (PFCs) and

hemoglobin-based oxygen carriers (HBOCs). While there has been research interest in using them for emergency or battlefield scenarios, they are not yet extensively used in war injuries due to cost, side effects, and limited availability. Hence (2) is not generally correct, but (1), (3), and (4) reflect real properties.

40. (a) Hypoxia and activation of inflammation.

When blood supply to a tissue is blocked (ischemia) and then restored (reperfusion), a burst of reactive oxygen species, inflammatory mediators, and leukocytes can surge into the previously ischemic area. This phenomenon, known as ischemia-reperfusion injury, paradoxically damages cell membranes, mitochondria, and can lead to capillary leak, local edema, and even multi-organ dysfunction in severe cases. The hallmark is tissue hypoxia followed by an intense inflammatory response, not primarily a buildup of bicarbonate/Na+, nor a purely embolic or mesenteric phenomenon.

41. (b) 6 mg per day.

By the second half of pregnancy, the fetus's demands and the expanding maternal red blood cell mass increase the mother's iron requirement. Although recommendations for daily supplementation can be higher (e.g., 30 mg elemental iron daily to prevent deficiency), the physiologic daily iron requirement is often cited as 4–6 mg. Options like 10 or 20 mg reflect typical supplementation levels in prenatal vitamins, but 6 mg/day is the classical textbook figure for additional iron needed during mid-to-late pregnancy.

42. (a) Fasting hypoglycaemia.

In normal pregnancy, the fetus draws glucose continuously, leaving the mother prone to lower fasting glucose levels. Meanwhile, maternal insulin resistance tends to increase in later pregnancy, often yielding higher postprandial glucose (not postprandial hypoglycemia) and a greater tendency toward gestational diabetes in predisposed individuals. Insulin sensitivity typically decreases rather than increases. Glucagon levels are not classically decreased. The hallmark is mild fasting hypoglycemia, relative hyperinsulinemia post meals, and a background of rising insulin resistance over the course of gestation.

43. (b) 1, 2 and 4.

In iron deficiency anemia, hemoglobin (Hb) often falls below 10 g/dL in pregnant patients, and hematocrit or packed cell volume (PCV) may be less than 30%. The peripheral smear typically shows a microcytic, hypochromic picture (reduced MCV and MCHC). MCHC usually drops below 30% in IDA, so statement 3 ("MCHC more than 30%") is inconsistent with classic iron deficiency. Thus, statements 1, 2, and 4 align with this common presentation in pregnancy.

44. (d) 1, 2 and 3.

A hydatidiform (molar) pregnancy often presents with a classic triad of (1) amenorrhea and vaginal bleeding, (2) exaggerated symptoms of pregnancy such as severe hyperemesis gravidarum (excessive vomiting), and (3) passage of "grape-like" vesicles (hydropic chorionic villi). On ultrasound, one may see a "snowstorm" pattern without a normal fetus. Timely diagnosis and evacuation of the uterine contents is crucial to prevent complications like persistent trophoblastic disease or choriocarcinoma.

45. (c) 1, 3 and 4

Non-live or inactivated vaccines such as the COVID-19 vaccine, hepatitis B vaccine, and rabies vaccine can be given during pregnancy, especially if indicated by exposure risk. MMR (measles, mumps, rubella), being a live attenuated vaccine, is routinely avoided while pregnant due to theoretical risk (even though documented harm is rare). Hence, pregnant women can safely receive the COVID vaccine, hepatitis B vaccine, and rabies vaccine as needed, but MMR is best deferred until after delivery.

46. (a) 1, 2 and 3

True labor contractions become progressively stronger and more frequent (statement 1) and are associated with cervical effacement and

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dilation (statement 2). As the cervix dilates, the membranes protrude, forming the so-called "bag of forewaters" (statement 3). In true labor, pain often begins in the back and radiates to the abdomen, rather than remaining confined only to the lower abdomen and groin. Hence, statement 4 (pain confined solely to the lower front) fits more with false labor.

47. (c) 1, 3 and 4

Active management of the third stage of labor typically includes: (1) giving a uterotonic (e.g., 10 units oxytocin IM) immediately after the final baby is delivered (for a single pregnancy, that is right after the baby's birth; in a twin gestation, it is usually after the second twin), (3) controlled cord traction once the uterus is well contracted, and (4) delayed cord clamping (often recommended at least 1 minute) to improve neonatal iron stores. Oxytocin injection at the birth of the first twin is generally not routine.

48. (b) 1, 2 and 4

Acute mastitis frequently arises in the first few weeks postpartum, often 2–4 weeks after delivery (statement 1). Milk from an infected breast typically shows high leukocyte counts ($>10^6$/mL) and significant bacterial load ($>10^3$/mL) (statement 2). The usual organism is Staphylococcus aureus, commonly originating from the infant's nose/throat or the mother's skin flora (statement 4). Bacteroides, E. coli, and Klebsiella are much less common, so statement 3 does not accurately reflect "common" organisms in typical puerperal mastitis.

49. (c) 3b

Obstetric anal sphincter injuries (third-degree tears) involve the external anal sphincter (EAS). They are subdivided as:

1. 3a: <50% thickness of EAS torn
2. 3b: >50% thickness of EAS torn
3. 3c: Both EAS and internal anal sphincter (IAS) torn.

Hence, a tear affecting more than half of the external sphincter thickness, but not the IAS, corresponds to 3b. These distinctions are important for proper repair and preventing long-term continence issues.

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50. (d) 1, 2 and 3

Successful lactation depends on adequate prolactin levels (stimulated by nipple/breast stimulation) and the let-down reflex (which relies on oxytocin). Infrequent suckling reduces prolactin surge and milk production (statement 1). Maternal depression or anxiety (statement 2) may decrease both milk let-down and overall motivation to breastfeed, sometimes worsening poor latch or scheduling issues. Pharmacologic or hormonal factors that inhibit prolactin (statement 3) can likewise hinder milk output. Addressing these issues early helps ensure successful breastfeeding.

51. (d) 1, 2 and 3

"Secondary arrest" of dilation describes a halt in cervical dilation after previously normal progression. Potential causes include inadequate uterine contractions (power problem), or cephalopelvic disproportion and malpresentation (passenger or pelvis problem). Sometimes the cervix may stop dilating despite apparently "strong" contractions, suggesting an obstructive factor like disproportion. Therefore, all three factors (statements 1, 2, 3) can contribute to a secondary arrest of cervical dilation, prompting reevaluation (including pelvic assessment and possibly operative delivery).

52. (c) the onset of true labour pains and ends with the full dilatation of cervix

Labor is classically divided into three stages. The first stage begins with the onset of true labor contractions (regular, progressive) and finishes when the cervix is fully dilated (10 cm). The second stage runs from full cervical dilation to the delivery of the baby. The third stage is from the birth of the baby to the delivery of the placenta. Formation of the bag of waters and bearing down efforts can occur later within these stages, so (c) is the precise definition.

53. (c) 1, 3 and 4

A vesicovaginal fistula is often called "complicated" if it is large (often >3 cm), located

in a challenging site (e.g., high or midvaginal level that impairs access), or associated with prior radiation therapy or multiple failed repairs. Supratrigonal involvement alone (statement 2) does not necessarily define a complicated fistula; rather, fistulas near the trigone/ureteric orifices can be more difficult. Large fistula size (1), midvaginal location (3), and previous radiation (4) typically increase surgical complexity and complication rates.

54. (b) 1, 2 and 4

The main components of the levator ani muscle group (forming most of the pelvic diaphragm) are typically described as pubococcygeus, iliococcygeus, and ischiococcygeus (often simply called "coccygeus"). "Sacrococcygeus" is not part of the standard naming. Thus, statements 1, 2, and 4 together identify the classical subset that supports pelvic organs, contributes to urinary and fecal continence, and assists in core stability.

55. (a) 1, 2 and 3

The uterus primarily receives blood from the uterine artery (branch of the internal iliac). The ovarian arteries (branching directly from the aorta) ascend the suspensory ligament of the ovary and anastomose with uterine branches at the uterine fundus, adding a secondary supply. Vaginal arteries (from the internal iliac system) can also supply the cervix and lower uterus region. The inferior vesical artery, however, typically supplies structures of the lower urinary tract (e.g., bladder), not the uterine body.

56. (d) Woman who prefers to preserve her uterus

Endometrial ablation is a uterine-sparing procedure used to manage abnormal uterine bleeding in women who do not desire future fertility. A large uterus (12–14 weeks) or big fibroids (>3 cm) typically complicates or precludes ablation. Likewise, women wanting future fertility usually require a different approach, as ablation can damage the endometrium needed for implantation. Hence, a typical prerequisite is that the woman wishes to keep her uterus but is no longer planning further pregnancies.

57. (d) 21st – 23rd day

In a typical 28-day cycle, ovulation generally occurs around day 14. About 7 days later (days 21–23), the endometrium exhibits characteristic secretory changes best appreciated on histology (subnuclear vacuoles, stromal edema). Performing an endometrial biopsy at this time (the mid-luteal or late secretory phase) helps confirm whether adequate ovulation and corpus luteum function have occurred ("secretory endometrium"). Earlier sampling would not show definitive secretory transformation, while significantly later may miss the classic histologic window.

58. (c) Genital Tuberculosis

In the Indian subcontinent and many developing countries, genital tuberculosis remains a significant cause of infertility. Hysterosalpingography in genital TB often shows an "irregular or beaded" outline of the tubes, strictures, calcifications, and a distorted uterine cavity. The fallopian tubes can become rigid and thickened with nodular salpingitis. Syphilis and gonorrhea can affect the reproductive tract but typically present differently, and herpes causes more acute or ulcerative lesions rather than the classic tubal rigidity seen here.

59. (c) 1, 3 and 4

The National AIDS Control Organization (NACO) in India spearheads HIV prevention, testing, and free antiretroviral treatment programs (statements 1 and 4). It also drives extensive public education campaigns to encourage safer sexual practices (statement 3). Although supporting orphaned children is important for many NGOs, "facilitating adoption of orphans" (statement 2) is not NACO's primary mandate. The organization focuses on controlling the HIV epidemic by ensuring accessible testing and free-of-cost treatment for those diagnosed.

60. (a) 1 and 2 only

Prophylactic bilateral salpingo-oophorectomy is strongly considered for women carrying

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pathogenic BRCA1/BRCA2 mutations (statement 1) or having a significant familial predisposition to breast and/or ovarian cancer (statement 2). Removal of ovaries and fallopian tubes dramatically lowers the risk of ovarian and related cancers. Tubo-ovarian abscess (statement 3) is managed medically or with targeted surgical intervention, but it is not an indication for bilateral prophylactic oophorectomy. Instead, prophylaxis targets individuals with high-genetic-risk profiles.

61. (b) Endodermal sinus tumour

Schiller-Duval bodies—glomerulus-like structures with a central blood vessel encircled by germ cells—are pathognomonic for yolk sac tumors (endodermal sinus tumors). On microscopy, they resemble a primitive glomerulus within a sinus space. Dysgerminomas do not display these structures; they have large polygonal cells and a lymphocytic infiltrate. Choriocarcinoma features hemorrhage and syncytiotrophoblast/cytotrophoblast cells, while sex cord stromal tumors (e.g., granulosa cell tumors) have different histologic markers (Call-Exner bodies).

62. (d) Gartner's cyst is not reducible

A cystocele (anterior vaginal wall prolapse) bulges downward and typically exhibits a cough impulse (the bladder and vaginal wall can protrude further with increased intra-abdominal pressure), and it may be partially reducible on examination. A Gartner's duct cyst, however, arises from remnants of the mesonephric duct in the anterolateral vaginal wall and does not connect with the bladder. It lacks an impulse on coughing and cannot be manually reduced. Hence the key differentiator is that the cyst is not reducible.

63. (b) Retroversion of uterus

"Ventrosuspension" is a traditional surgical procedure to correct a retroverted uterus. In it, the uterus is suspended in an anteverted position (essentially attaching the uterine fundus to the anterior abdominal wall or round ligaments). While many modern techniques exist (e.g., laparoscopic uterine suspension), ventrosuspension is historically known for addressing persistent or symptomatic retroversion. It is not meant for managing pelvic organ prolapse (significant descent of uterus), rupture, or vault prolapse after hysterectomy.

64. (d) Pessary treatment

In a pregnant woman with a moderate (second-degree) uterine prolapse, a well-fitting pessary (such as a ring pessary) is often the first-line management. It can help support the prolapsed uterus and alleviate symptoms. Cervical amputation is not indicated for routine prolapse in pregnancy, nor is cerclage typically used for uterine descent (it is used for cervical incompetence). Simple reassurance may not suffice if the prolapse is symptomatic. Hence, a pessary is a safe, effective choice.

65. (b) 1, 2 and 4.

For an HIV-positive expectant mother, peripartum intravenous or oral Zidovudine (ZDV) helps reduce maternal–fetal transmission (statement 1). Elective cesarean section (C-section) before labor onset further reduces vertical transmission, especially if the mother's viral load is high or poorly controlled (statement 2). Neonatal prophylaxis with antiretroviral therapy (statement 4) is also standard. Routine amniotomy and augmentation (statement 3) are typically not specifically recommended in HIV management, as additional intrauterine manipulation may slightly increase exposure risk.

66. (b) 1, 2 and 4.

Post-term babies (beyond 42 weeks) are prone to meconium passage in utero, risking meconium aspiration syndrome (1). They may also experience hypoglycemia (2) because of depleted glycogen stores and intermittent placental insufficiency. Chronic mild hypoxia may trigger increased erythropoietin production and subsequent polycythemia (4). Intraventricular hemorrhage (3) is classically associated with prematurity rather than post-maturity. Thus, meconium aspiration, hypoglycemia, and polycythemia are recognized complications in post-mature infants.

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67. (c) 1, 3 and 4.

Intrahepatic cholestasis of pregnancy typically appears late in gestation (after 28 weeks) with intense pruritus, often most severe on the palms and soles (1). Serum bile acids are significantly elevated (3), while bilirubin may be only mildly elevated—often well under 5 mg/dL. After delivery, symptoms usually resolve within a couple of weeks (4). Hence the key triad is pruritus, elevated bile acids, and spontaneous remission postpartum.

68. (c) 1, 3 and 4.

In iron deficiency anemia, serum iron levels typically drop below 30 μg/dL (1). TIBC (Total Iron Binding Capacity) usually rises above 400 μg/dL, so statement 2 (less than 400) is incorrect. Percentage transferrin saturation often falls to 10% or below (3). Serum ferritin below 30 ng/mL (4) is also a key laboratory hallmark confirming depleted iron stores. Thus, statements 1, 3, and 4 align with classical findings of IDA.

69. (a) 1, 2 and 3.

Intrauterine growth-restricted (IUGR) babies often appear "wizened" or with an "old man look" owing to poor subcutaneous fat (1). They have a notable weight deficit at birth (3). Despite being small, many such babies can still be relatively alert with preserved reflexes if they are not in acute distress (2). In contrast, thick fat around the shoulders is more characteristic of infants of diabetic mothers; an IUGR infant generally lacks extra adipose tissue (so 4 is incorrect).

70. (b) 1, 2 and 4.

"Chhaya" (Centchroman or Ormeloxifene) is a selective estrogen receptor modulator (SERM) with a predominantly anti-estrogenic effect on the uterus (1). It chiefly works by altering endometrial receptivity, causing asynchrony between embryo development and the endometrium (4). Its failure rate is quoted between 1–4 per 100 woman-years (2). It may not reliably suppress ovulation in every cycle—its primary mechanism is endometrial, so statement 3 ("It inhibits ovulation") is incomplete or not the main route of action.

71. (d) 1, 2 and 3.

Long-Acting Reversible Contraceptives (LARC) include any method providing highly effective, maintenance-free contraception for an extended period, typically years, with quick return of fertility once removed. Copper-T 380A (1), contraceptive implants (2), and the levonorgestrel intrauterine system (LNG-IUS) (3) all fit this definition. They require minimal user compliance beyond insertion and have low failure rates. Other shorter methods (pills, injectables after 3 months, etc.) are not classified as LARC.

72. (b) 4.

An extended continuous regimen of combined oral contraceptives typically schedules a withdrawal bleed every three months—yielding roughly four bleeds per year. Instead of the standard 21/7 day regimen with monthly withdrawal bleeding, these extended regimens combine multiple consecutive active-pill cycles (e.g., 84 active pills), followed by a short placebo interval, leading to quarterly menses. This approach can reduce menstrual symptoms, though not everyone opts for it.

73. (a) Epithelial ovarian cancer.

Increasing evidence suggests many high-grade serous ovarian carcinomas actually originate in the distal fallopian tubes. Therefore, prophylactic or opportunistic bilateral salpingectomy (removal of both fallopian tubes) has been advocated to lower the future risk of epithelial ovarian cancer. This is recommended particularly in women undergoing pelvic surgery for other reasons (e.g., hysterectomy) who have completed childbearing, and in certain higher-risk individuals. It does not specifically prevent uterine or primary peritoneal malignancies.

74. (a) Tonic stage.

In a generalized tonic–clonic seizure (as seen in eclampsia), the jaw may clamp shut suddenly during the tonic phase, putting the tongue at risk of being bitten. The subsequent clonic phase

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involves rhythmic jerking movements, but the abrupt sustained contraction of the orofacial muscles in the tonic phase is classically where tongue-biting is most likely to occur. Afterward, the patient may enter a postictal phase of altered consciousness or coma.

75. (a) 1, 2 and 3

IUD removal is indicated if there is uterine perforation (1) or if pregnancy occurs while the device remains in situ (2), because continuing with an embedded IUD can raise risks of infection or miscarriage. Once a woman is firmly past menopause (commonly one year after her last menstrual period), the IUD is no longer needed for contraception (3). "Persistent migraine" (4) is usually a concern with combined hormonal methods, not typically a strict removal indication for non-hormonal or even LNG IUDs.

76. (a) 1, 2 and 3.

Absolute contraindications to combined oral contraceptives (COCs) include severe or uncontrolled hypertension, advanced diabetes with vascular complications (e.g., retinopathy), and of course existing pregnancy. Gallbladder disease (4) may be a caution—particularly if acute or complicated—but it is generally a relative rather than absolute contraindication. WHO/CDC guidelines highlight severe hypertension (≥160/100 mmHg) and diabetes with end-organ damage as high-risk for COC use.

77. (c) Nexplanon.

Nexplanon (the etonogestrel-releasing subdermal implant) is a classic "Long-Acting Reversible Contraceptive" (LARC). It remains effective for up to 3 years, offers a high efficacy rate, and fertility returns rapidly upon removal. Combined oral pills require daily compliance, the diaphragm is barrier-based and less effective, and Chhaya (Centchroman) is a weekly pill that is not as long-acting. For someone wanting a reliable, maintenance-free method, an implant or an IUD is generally the best LARC choice.

78. (b) Inconsistent findings of colposcopy, cytology and directed biopsy.

Cold knife conization (CKC) is indicated when there is a discrepancy between Pap smear, colposcopy, and biopsy results—i.e., suspicion of high-grade or invasive pathology that has not been definitively diagnosed. Conization allows a larger, intact cone of tissue from the transformation zone for thorough histopathology. Treating a benign Nabothian cyst (a) or purely negative endocervical curettage (c) would not require CKC. Stage IIA cervical cancer (d) typically requires more definitive management (e.g., radical surgery/radiation).

79. (c) 1, 3 and 4.

Female sterilization can be done soon after childbirth—usually within 24–48 hours postpartum—before the uterus descends significantly (1). It also can be done concurrently with medical termination of pregnancy (3). Bilateral tubal ligation has been linked with reduced risk of serous ovarian cancer because many high-grade serous carcinomas arise from the fallopian tubes (4). However, the usual time for interval ligation (if not postpartum or post-abortal) is early in the follicular phase (right after a menstrual period), not the luteal phase.

80. (b) Pomeroy Technique.

The classic Pomeroy (or Modified Pomeroy) method is the most widely used tubal ligation technique. It involves creating a loop of the fallopian tube, ligating it, then excising a small segment. The resulting ends scar and seal, preventing passage of the ovum. Other methods (Madlener, Uchida, Irving, etc.) are also performed, but the simple, reliable Pomeroy remains particularly popular for postpartum sterilizations. It provides a decent chance of reversibility if needed, though success rates vary.

81. (d) Total Fertility Rate (TFR).

The Total Fertility Rate (TFR) is the average number of children a woman would bear during her lifetime if she experienced the current age-specific fertility rates throughout her reproductive years (usually 15–49). Age-Specific Fertility Rate (ASFR) measures births

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to women within a specific age band per 1,000 women of that age. The General Fertility Rate (GFR) measures the ratio of births to women aged 15–44. The Net Reproduction Rate (NRR) tracks daughters replacing mothers at current mortality/fertility rates.

82. (a) 1 and 2.

The WHO amended its International Health Regulations to make a single yellow fever vaccination valid for the life of the recipient (1). This lifetime validity applies retroactively to existing certificates and prospectively to new ones, so no further booster is required for international travel (2). Officially, a yellow fever certificate becomes valid 10 days after vaccination (not 4 days), making statement 3 incorrect. India does not currently require a routine booster if vaccinated previously, so statement 4 is also incorrect.

83. (a) 1 only.

Currently, the purified Vi polysaccharide vaccine is indeed injectable and can be given subcut or IM (1). It is typically administered as a single dose, not a two-dose schedule (2 is incorrect). The oral Ty21a vaccine is given in three or four doses spaced 48 hours apart—often on days 1, 3, and 5, not 0, 3, 7 (3 is incorrect in that stated schedule). Immunity is not immediate; it takes about 1–2 weeks to develop protective levels (4 is incorrect).

84. (b) 1 and 4.

A Mantoux test (intracutaneous test) generally uses 0.1 mL of PPD containing the specified Tuberculin Units (commonly 1 TU to 5 TU, depending on guidelines) (1). It is injected intradermally using a tuberculin syringe with a fine 26-gauge needle (4). The bevel is conventionally kept upward, not downward, to create a proper bleb. The typical wheal is about 6–10 mm in diameter when correctly placed; 1–2 mm would be too small to confirm correct ID placement (so statement 3 is incorrect).

85. (d) Plenum ventilation

Plenum ventilation, sometimes referred to as "positive pressure" ventilation, forces fresh air into a space using fans or blowers, thereby displacing stale air outward. Exhaust ventilation, by contrast, sucks out indoor air to reduce pressure and pull in fresh air from outside. Balanced systems have equal supply and exhaust. Natural ventilation relies on wind or buoyancy without mechanical fans. Because the question specifically mentions blowing fresh air in to create a positive pressure, plenum ventilation is correct.

86. (b) Fluorine

Excess fluoride in drinking water causes fluorosis in many regions of India. The "Nalgonda Technique," named after an area in Telangana, involves adding alum (aluminum sulfate) plus lime and bleaching powder to precipitate and remove fluoride. NEERI pioneered this cost-effective defluoridation process for rural communities with high fluoride levels. It is not aimed at removing asbestos fibers, chlorine (a disinfectant), or iron. Hence it is specifically known for fluoride removal.

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87. (c) 1, 2 and 3

Smoking raises blood pressure and heart rate because nicotine stimulates the sympathetic nervous system (1). Carbon monoxide reduces oxygen delivery, damages the endothelium, and promotes atherosclerosis (2). Smoking also decreases protective HDL (3), which further increases atherosclerotic risk. Apolipoprotein B typically is linked to LDL and can be elevated in smokers, not reduced, so statement 4 is incorrect. Hence 1, 2, and 3 explain how smoking predisposes to coronary artery disease.

88. (a) Zero preventable maternal and newborn deaths

SUMAN stands for "Surakshit Matritva Aashwasan," an initiative launched by the Indian government aiming to assure high-quality maternal and newborn healthcare. Its overarching goal is to achieve "zero preventable maternal and newborn deaths" by providing free and respectful care for pregnant women, mothers, and newborns, ensuring no mother or

newborn suffers or dies from causes that could have been averted through proper care and timely interventions.

89. (b) Nitrate

Elevated nitrate in drinking water (often from fertilizers or sewage contamination) can be converted to nitrite in the human gut, which oxidizes hemoglobin to methemoglobin. Methemoglobin cannot carry oxygen effectively, causing "blue baby syndrome" (methemoglobinemia) particularly in infants. Cyanide, fluoride, and sulfide contamination can be toxic in other ways but are not classically linked to methemoglobinemia. The condition is most commonly associated with nitrate-laden well water.

90. (c) 2, 3 and 4

Proteins are indeed crucial for maintaining plasma oncotic pressure (2), supporting immune functions (particularly cell-mediated immunity via T-cell proteins) (3), and for the synthesis of numerous hormones (e.g. insulin, growth hormone) (4). While proteins can serve as an energy source (1), that role is secondary to carbohydrates and fats. The question specifically highlights "essential" reasons, which most commonly include structural, functional, and regulatory roles, not primarily energy supply.

91. (b) Egg proteins

Egg protein has historically been the gold standard or "reference protein" because it has an excellent amino acid profile closely matching human requirements, plus high digestibility and biological value. Although milk proteins and some other sources are also high-quality, egg albumin is the classic reference in nutrition. Wheat and legumes have incomplete amino acid profiles and are not used as references, though they provide valuable plant proteins in the diet.

92. (b) 1 and 3 only

Trans fats result from partial hydrogenation or specific fermentation processes, creating a trans double bond instead of the natural cis form (1). They are strongly atherogenic, often more harmful than many saturates, so statement 2 is incorrect. Studies show trans fats can linger in the body, especially within adipose tissues, for quite a while (3). They tend to increase LDL and decrease HDL (not lower both), so statement 4 is incorrect. Hence 1 and 3 best fit the known facts.

93. (d) 1, 2 and 4

Iodine deficiency can cause neurological cretinism and hypothyroidism leading to growth and developmental delays (delayed motor milestones, 1) and also spasticity with extrapyramidal symptoms (2) and hearing impairment (4). Nyctalopia (night blindness) is typically due to vitamin A deficiency, not iodine deficiency, so (3) is unrelated here. Hence the triad of delayed milestones, extrapyramidal signs, and hearing problems is recognized in severe congenital hypothyroidism/cretinism from iodine deficiency.

94. (b) 2 and 3 only

Occupational bladder cancer is associated with aromatic amines in the dye industry (2). Prolonged benzene (benzol) exposure can cause leukemia (3). Skin cancer is more typically linked with arsenic or some polycyclic hydrocarbons, not usually nickel/chromium (though chromium and nickel can cause lung or nasal sinus cancer, not mostly skin). Lung cancer, especially from asbestos or silica or chromium, is more typical in relevant industries, but "electric cable" (4) is not classically associated with lung cancer.

95. (b) Neural tube defects

Elevated alpha-fetoprotein (AFP) in amniotic fluid or maternal serum is strongly suggestive of fetal neural tube defects like spina bifida or anencephaly. Some abdominal wall defects (e.g., gastroschisis) can also elevate AFP, but NTDs are the classic association. Cardiac septal defects, Duchenne muscular dystrophy, or galactosemia generally do not present with high AFP in the amniotic fluid.

96. (d) 1, 2 and 4

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Classical categorization of learning includes cognitive, affective, and psychomotor domains. Cognitive is knowledge-based, affective is about attitudes/values, and psychomotor relates to manual or physical skills. "Physiological learning" is not generally recognized as a separate domain in standard educational theory (e.g., Bloom's taxonomy). So the recognized three domains are (1) affective, (2) cognitive, (4) psychomotor.

97. (d) 2, 3 and 4

ICDS primarily targets children below 6 years (4), pregnant women (3), lactating mothers, and adolescent girls (2) in many updated government directives (e.g., the Kishori Shakti Yojana extension). Adolescent boys (1) are not typically included under ICDS, which focuses on vulnerable female youth and early childhood nutrition. Key ICDS services include supplementary nutrition, immunization, health check-ups, and preschool education.

98. (b) 1, 3 and 4

A First Referral Unit (FRU) must be able to handle obstetric emergencies (1) including surgical intervention (C-section), have blood storage/transfusion facilities (3), and provide comprehensive newborn care (4). While immunizations (2) are important, they are widely provided at lower health centers and are not a critical defining criterion for FRU status. The emphasis for FRU is emergency care for deliveries and newborns, with surgical and transfusion support.

99. (b) 1 → 3 → 2 → 4

In India's NIS:

1. BCG is given at birth or as early as possible.
2. Rotavirus vaccine typically begins at 6 weeks.
3. JE (first dose) is given at 9 months in endemic areas (some schedules use 9 months or later).
4 Td is usually given around 10–16 years (as older childhood/adolescent booster) or in place of older TT schedules.

Hence, the ascending minimum age is BCG (newborn) → Rotavirus (6 weeks) → JE (9 months) → Td (adolescent).

100. (c) 1 and 4 only

Accredited Social Health Activists (ASHAs) help identify suspected leprosy cases (1), refer them for confirmation, and support them throughout treatment to ensure completion (4). Micro-cellular rubber footwear is provided free by the program, but typically arranged by government health services, not specifically purchased by ASHAs (3). The official incentive for reconstructive surgery is provided by the health system, but ASHAs do not personally arrange ₹ 5,000 for each patient (2).

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101. (c) Both Central Government and State Government

Ayushman Bharat PM-JAY is jointly funded by the Union (Central) Government and the respective State Governments, typically on a 60:40 cost-sharing formula for most states, with a higher Central share for special category states. States implement the scheme via State Health Agencies, while the Central Government provides overall guidelines and partial funding. The joint financing structure makes healthcare coverage more uniformly accessible across India's diverse regions.

102. (b) Neonatal mortality rate

Among the frequently tracked newborn-care metrics (e.g., rates of cesarean section, exclusive breastfeeding, and preterm births), the neonatal mortality rate (NMR) is specifically an impact indicator. It directly reflects the outcome of collective interventions on newborn health and survival. By contrast, cesarean section rate and exclusive breastfeeding rate are often regarded as process or coverage indicators, while preterm birth percentage is more of an epidemiological measure. NMR indicates how effectively the health system has reduced preventable neonatal deaths.

103. (d) 2, 3 and 4

Commonly recognized approaches or models in health education emphasize changing people's behavior and social context. The motivation model focuses on inspiring individuals, the persuasion (behavioral) model aims to shift attitudes and behaviors, and the social intervention model targets broader social factors and policies. The so-called "medical model" is generally more about providing clinical services rather than a classic "education" paradigm for behavior change. Hence, (2), (3), and (4) are specifically considered health education models.

104. (a) Anthracosis

In coal workers' pneumoconiosis (anthracosis), the disease often starts as simple pneumoconiosis (with small nodular deposits of carbon-laden macrophages) and can progress to complicated pneumoconiosis or progressive massive fibrosis (PMF) in advanced stages. Bagassosis (sugarcane dust exposure), byssinosis (cotton dust), and siderosis (iron oxide) typically do not demonstrate the same pattern of massive fibrotic lesions seen with long-term coal dust inhalation.

105. (b) 4 only

Correlation simply measures the degree to which two variables change together; it does not by itself prove a cause-and-effect relationship (statement 4 is true). Statements 1, 2, and 3 are incorrect:

(1) Correlation can be done between any two numerical variables without strictly labeling one as "independent" or "dependent."

(2) The Pearson correlation coefficient r ranges from –1 to +1, not –1 to ∞.

(3) r = +1 means a perfect positive association, not "no association."

106. (c) All three

Lead poisoning can elevate urinary porphyrins, including coproporphyrin, and though the more common screening tests now involve blood lead levels or free erythrocyte protoporphyrin (FEP), urinary coproporphyrin can still be indicative (statement 1). Simple hygiene measures like hand washing reduce ingestion of lead dust (2). d-Penicillamine, along with EDTA and other agents, can be used as a chelator for treating lead toxicity (3). Hence all three statements hold true.

107. (d) Malaria

Anopheles mosquitoes lay their eggs singly on the water surface, with each egg having characteristic lateral floats—often described as "boat-shaped" eggs. This finding distinguishes Anopheles from Culex (which lays eggs in rafts), Aedes (eggs singly but typically lacking the prominent lateral floats), or Mansonia (eggs attached to aquatic vegetation). Since Anopheles transmits malaria, the observed eggs point to the malaria vector rather than viruses like dengue, chikungunya, or JE (which are spread by Aedes or Culex).

108. (d) 2 and 4

The "90–90–90" global goals (adopted in Indian policy) for HIV stipulate that by a target year, 90% of people living with HIV (PLHIV) know their status, 90% of diagnosed PLHIV receive sustained antiretroviral therapy, and 90% of those on ART achieve viral suppression. Statements 2 ("people living with HIV who know their HIV status") and 4 ("ART patients who have viral suppression") directly align with those goals. Safe sex among couples or adolescent contraceptive access are important but not part of the 90–90–90 definition.

109. (a) Dual-record system

Under India's Sample Registration System, births and deaths are continuously recorded by a local enumerator, and every six months an independent supervisor surveys the same units. These two records—continuous enumeration and retrospective half-yearly survey—are matched and reconciled, making it a dual-record system. This design improves completeness and accuracy of vital statistics. It is neither a "triple-record system" nor a "double-blinding" or standard "double data entry" method used in clinical trials or data management software.

110. (d) 1 and 3

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A cross-over design relies on each participant being able to "wash out" and then try the other intervention. If the first drug cures the disease (1), the patient cannot cross over to any other treatment condition. Also, if the disease itself radically changes or evolves (3) over time (e.g., rapidly progressive disorders), the comparison becomes invalid. Merely being "effective at all stages" (2) does not preclude a cross-over; that factor alone does not undermine the design's feasibility.

111. (d) Typhoid

For typhoid fever, humans serve as both the reservoir (chronic carriers or infected persons) and the source (bacteria shed in feces contaminating water/food). By contrast, in hookworm the reservoir is soil (with larvae developing outside), and in cholera, contaminated water/food is often the direct source, though humans are main hosts. Tetanus's reservoir is commonly soil/animal feces, and the immediate source is an environmental wound contamination. Typhoid stands out as purely human reservoir/source.

112. (d) 3 and 4 only

Chikungunya is transmitted primarily by Aedes mosquitoes (not Culex), and no widely used licensed vaccine is currently available. The incubation period typically ranges from about 3 to 7 days (3), and it commonly presents with fever and severe joint pains or arthralgia/arthropathy (4). Hence statements 1 and 2 are incorrect.

113. (d) Schistosomiasis

In schistosomiasis (bilharzia), freshwater snails act as the intermediate host, releasing cercariae that penetrate the human host's skin. Humans excrete eggs (e.g., in feces or urine), which hatch into miracidia infecting snails, continuing the life cycle. Thus, the chain is "Man → Snail → Man." Malaria's cycle is "Man → Mosquito," onchocerciasis uses blackflies, and fish tapeworm (Diphyllobothrium) involves fish as an intermediate host, not snails.

114. (c) 1, 3 and 4

Aedes mosquitoes—especially Aedes aegypti—are the primary vectors for dengue (1), yellow fever (3), Zika (4), and chikungunya (not listed here). By contrast, West Nile virus (2) is typically transmitted by Culex mosquitoes. Aedes mosquitoes are daytime feeders, breed in clean water collections, and are known for biting indoors and outdoors.

115. (a) Generation time

The generation time is the time from infection (in the index case) to the point of maximum communicability of that infection by the host. It differs from:

1. Incubation period: infection to clinical symptoms.
2. Latent period: infection to onset of infectiousness.
3. Serial interval: the gap between disease onsets in successive cases in a chain of transmission.

Hence "generation time" specifically addresses the peak infectious window.

NODIA

116. (a) 4 → 3 → 2 → 1

In general, live oral polio vaccine (OPV) is extremely heat-sensitive. Inactivated polio vaccine (IPV), though less labile than OPV, still must be kept cold. Hepatitis B vaccine is relatively more stable than polio vaccines. BCG (when in freeze-dried form) is comparatively less susceptible to heat before reconstitution. Hence the usual listed sequence from most to least heat-sensitive—within these four—goes OPV → IPV → Hep B → BCG.

117. (a) 1 and 3

Asphyxiating gases include both simple asphyxiants (e.g. nitrogen, which displaces oxygen) and chemical asphyxiants (e.g. carbon monoxide, cyanide) that interfere with oxygen delivery or utilization. Carbon monoxide (1) and cyanide (3) are prime examples of chemical asphyxiants: CO binds hemoglobin with high affinity, while cyanide blocks cellular respiration. Chloroform (2) is primarily an anesthetic vapor. Hydrogen (4), though it can displace oxygen in large quantities, is less commonly classified in standard lists of industrial asphyxiants.

118. (c) 1, 2 and 3 only

The ESI Act covers medical care for employees and their dependents, along with specific monetary benefits. These benefits include:

1. Disablement benefit (1) for temporary or permanent disablement,
2. Funeral expenses (2) as a lump sum paid on death of the insured person,
3. Maternity benefit (3) for insured women,Dependent benefit (pension to surviving dependents), etc.
4. A "travel benefit" (4) is not a recognized category under the ESI Act.

119. (c) 2 and 4

Hepatitis B vaccination (2) is linked with preventing chronic HBV infection and thus reducing the risk of hepatocellular carcinoma (liver cancer). Human papillomavirus (HPV) vaccine (4) helps prevent HPV strains that cause cervical cancer and other HPV-related malignancies. In contrast, Hepatitis A vaccine (1) does not have a recognized anticancer role, and Hib vaccine (3) prevents Haemophilus influenzae type b infections but is not used to avert any known cancer.

120. (a) Statement-I and Statement-II are independently correct, and Statement-II is a correct explanation for Statement-I.

Health planners often estimate pregnancies by taking the expected live births and adding 10% to account for stillbirths, miscarriages, or unregistered cases (Statement-I). At the community level, not all pregnancies are tracked by health workers due to underreporting or early losses (Statement-II). Because unregistered and nonviable pregnancies are precisely why the correction factor is applied, Statement-II indeed explains the rationale behind Statement-I.

END

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QUESTION PAPER 2022

1. Mycetoma, a chronic, specific, granulomatous, destructive disease, involving the skin and subcutaneous tissue
   (a) is a blood-borne infection
   (b) involves the superficial structure only
   (c) may be caused by fungi or bacteria
   (d) frequently causes trophic changes

2. Which of the following statements are correct regarding Buerger's disease?
   1. It involves small to medium arteries.
   2. It is common in smokers.
   3. It commonly involves lower limb vessels.
   4. Cessation of smoking reverses the disease process.

   Select the correct answer using the code given below.
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

3. The most difficult area to visualize using duplex scanning (B-mode ultrasound), especially in an obese patient, is
   (a) carotid vessels
   (b) abdominal aorta above renal vessels
   (c) aortoiliac segment
   (d) iliofemoral segment

4. Which of the following vital structures in the axilla should always be preserved in modified radical mastectomy?
   1. Axillary vein
   2. Nerve to serratus anterior
   3. Nerve to latissimus dorsi
   4. Intercostobrachial nerves

   Select the correct answer using the code given below:
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

5. The most common metabolic abnormality associated with gastric outlet obstruction is
   (a) hypochloraemic acidosis
   (b) hypochloraemic alkalosis
   (c) hyperchloraemic alkalosis
   (d) hyperchloraemic acidosis

6. The 'gold standard' for the diagnosis of GORD (Gastro-Oesophageal Reflux Disease) is
   (a) upper GI endoscopy
   (b) barium meal follow through
   (c) 24-hour pH recording
   (d) CT scan

7. Which of the following factors predispose to the development of incisional hernia?
   1. Malnutrition
   2. Postoperative wound infection
   3. Non-absorbable suture material
   4. Immunocompromised patient

   Select the correct answer using the code given below:
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

8. Which of the following statements regarding papillary thyroid cancer are correct?
   1. It is the most common malignant tumour of thyroid gland.
   2. It is more common in young females.
   3. It has propensity for haematogenous spread.
   4. Distant metastases are uncommon.

   Select the correct answer using the code given below.
   (a) 1, 2 and 3
   (b) 2, 3 and 4
   (c) 1, 3 and 4
   (d) 1, 2 and 4

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9. Which of the following statements about peptic ulcers is correct?
(a) The most common location is the third part of duodenum.
(b) It is more commonly seen in females.
(c) There is no risk of malignancy in gastric ulcers.
(d) Anteriorly located duodenal ulcers are 'more prone for perforation'.

10. Which of the following statements regarding annular pancreas are correct?
1. It results from failure of rotation of dorsal pancreatic bud during development.
2. A ring of pancreatic tissue surrounds the second or third part of duodenum.
3. It presents with vomiting due to duodenal obstruction.
4. Duodenoduodenostomy is the preferred treatment of this condition.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

11. Which of the following scoring systems are used for assessing the severity of acute pancreatitis?
1. Ranson and Glasgow score
2. APACHE score
3. MELD score
4. Modified Marshall score

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

12. Which of the following statements regarding a patient of liver trauma are correct?
1. Liver is the most common organ injured following abdominal trauma.
2. Surgical exploration (laparotomy) is required in haemodynamically unstable patients and patients with free intraperitoneal fluid on FAST.
3. Contrast enhanced CT abdomen should be done in haemodynamically stable patients.
4. Blunt injuries have a higher mortality as compared to penetrating injuries.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

NODIA

13. The least marked function of a human spleen is
(a) immune function
(b) filter function
(c) pitting function
(d) reservoir function

14. Which of the following are the causes of retroperitoneal fibrosis?
1 Continuous Ambulatory Peritoneal Dialysis (CAPD)
2 Lymphoma
3 Drugs
4 Carcinoid tumours

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

15. The most common brain tumour in an adult is
(a) cerebral metastasis
(b) glioma
(c) pituitary tumour
(d) vestibular schwannoma

16. Which of the following are included in the triad of presentation of brain tumours?
1. Raised ICP
2. Seizures
3. Anopia
4. Focal deficit

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4

(d) 2, 3 and 4

17. Triaging is done to prioritize the treatment in case of trauma and the patients are colour coded. The yellow colour code signifies
(a) urgent
(b) immediate
(c) non-urgent
(d) unsalvageable

18. A 6-year-old boy has recurrent history of pain and swelling below his left ear, which generally lasts for 3–7 days and improves mildly after a course of antibiotics. Sialography shows punctate sialectasis. He should be treated by
(a) prolonged antibiotics bolus doses
(b) endoscopic washouts and antibiotics
(c) total conservative parotidectomy
(d) radiotherapy

19. Hypotension in an unconscious head injury patient is most commonly due to
(a) pontine haemorrhage
(b) extradural haemorrhage
(c) intracerebral haemorrhage
(d) associated injuries of abdomen or chest

20. Preoperative investigations done prior to surgery depend upon which of the following?
1. Type of surgery
2. Patient origin
3. Patient comorbidities
4. Experience of surgeon
Select the correct answer using the code given below
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

21. Which of the following are included in Grade II acute cholecystitis as per 'Tokyo Consensus Guidelines for Severity'?
1. Elevated white cell count (18000/mm^3)
2. Renal dysfunction
3. Duration 72 hours
4. Marked local inflammation
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

22. The maximum tensile strength that a wound can reach after healing is complete, in comparison to normal skin, is
(a) 20%–30%
(b) 30%–50%
(c) 50%–60%
(d) 60%–80%

23. The most common site for development of a pressure sore (in debilitated patients) is
(a) heel
(b) occiput
(c) ischium
(d) greater trochanter

24. Which of the following are included in triple assessment in case of breast?
1. Clinical assessment
2. Radiological assessment
3. Histopathological assessment
4. Sentinel lymph node biopsy
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

25. Which of the following are the extraintestinal manifestations of Crohn's disease related to disease activity?
1. Amyloidosis
2. Pyoderma gangrenosum
3. Primary sclerosing cholangitis
4. Arthropathy
Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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26. Which one of the following is correct regarding Gastrointestinal Stromal Tumour (GIST)?
(a) It arises from epithelial layer.
(b) The male to female ratio is 9 : 1.
(c) 50% arise from stomach.
(d) Lymphatic spread is seen commonly.

27. Which of the following are used in the treatment of achalasia?
1. Botulinum toxin
2. Beta blockers
3. Pneumatic dilation
4. Heller's myotomy

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

28. Which of the following are the intraoperative features of viable small bowel?
1. Visible peristalsis
2. Flabby intestinal musculature
3. Shiny appearance of small bowel wall
4. Visible pulsation in the mesenteric artery

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

29. Which of the following statements regarding peptic ulcers are correct?
1. Duodenal ulcers are more common as compared to gastric ulcers.
2. Helicobacter pylori and NSAIDs are most common causative agents.
3. Bleeding is the most common complication associated with posterior duodenal ulcer.

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

30. Which of the following statements are correct with regard to Budd-Chiari syndrome?
1. Venous drainage of liver is occluded by hepatic vein thrombosis.
2. It most commonly affects the young males.
3. It is associated with protein C, protein S and antithrombin III deficiency.
4. Abdominal discomfort and ascites are the most common features associated with acute thrombosis.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

31. Which of the following are included in Ranson scoring system to predict the severity of acute pancreatitis at the time of admission?
1. WBC count 15×10^8 /L
2. Blood glucose 200 mg/dL
3. LDH 350 units/L
4. AST 250 units/L

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

32. Cystic fibrosis involves which of the following organs?
1. Lungs
2. Liver
3. Pancreas
4. Kidney

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

NODIA

33. The commonest variety of peritoneal metastasis is
(a) discrete nodules

(b) plaques of varying sizes
(c) diffuse adhesion
(d) drop metastasis in pelvis

34. When the hernia extends between the layers of abdominal wall muscles and not directly through them, it is called
(a) Richter's hernia
(b) Spigelian hernia
(c) Amyand's hernia
(d) Littre's hernia

35. Which of the following are tension-free inguinal hernia repairs?
1. Stoppa's repair
2. Lichtenstein's repair
3. Laparoscopic TEP repair
4. Desarda's repair

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

36. Which of the following are correct with regard to lung cancer?
1. Surgical resection has a limited role in curative treatment of lung cancer.
2. Pattern of disease and prognosis of oat cell carcinoma are different to other varieties in the lungs.
3. Small cell lung cancer is a type of Neuroendocrine Tumour (NET).
4. Squamous cancer appears as a cavitating tumour in the lungs.

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2, 3 and 4 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

37. Which of the following are true about epidermal cyst?
1. It is lined by stratified squamous epithelium.
2. It is derived from hair follicle.
3. It is also called sebaceous cyst.
4. It is not fixed to the skin.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

38. Which of the following are correct about glomus tumour?
1. It arises from Sucquet-Hoyer canals.
2. Its usual site is nail bed.
3. It is usually a small purple nodule.
4. It is painless.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

39. Which of the following are correct about Felty's syndrome?
1. It is associated with rheumatoid arthritis.
2. It may present with leukopenia.
3. It may have splenomegaly.
4. Splenectomy always improves the blood picture.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

40. Anderson-Hynes plasty is a type of repair of
(a) renal pelvis
(b) lower ureter
(c) urinary bladder
(d) glans penis

41. During the first stage of labour, the intrauterine pressure is increased up to
(a) 2–3 mmHg
(b) 8–10 mmHg
(c) 40–50 mmHg
(d) 100–120 mmHg

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42. Which of the following are screening tests for cervical cancer?
1. Pap test
2. HPV DNA test
3. Visual inspections with acetic acid
4. Endocervical curettage

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

43. Heavy menstrual bleeding is a common presentation in which of the following?
1. Clotting factor deficiency
2. Fibroid uterus
3. Adenomyosis
4. Prolactinoma

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

44. Serum level of CA 125 is raised in which of the following conditions?
1. Epithelial ovarian cancer
2. Endometriosis
3. Pelvic inflammatory disease

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

45. Uterus is supported by which of the following ligaments?
1. Pubocervical ligament
2. Cardinal ligament
3. Uterosacral ligament
4. Ovarian ligament

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

46. Amongst the following, the Pearl Index is highest with
(a) combined oral contraceptives
(b) intrauterine contraceptive devices
(c) barrier contraceptives
(d) calendar rhythm method

47. Following vaginal delivery, uterus becomes non-pregnant size by
(a) 9 weeks postpartum
(b) 8 weeks postpartum
(c) 4 weeks postpartum
(d) 6 weeks postpartum

NODIA

48. Indications and prerequisites for delivery with the ventouse include which of the following?
1. Delay in the second stage of labour
2. Non-reassuring fetal heart rate
3. Gestation age less than 34 weeks of pregnancy
4. Vertex presentation

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

49. Which of the following fetal infections are associated with significant intrauterine growth restriction?
1. Cytomegalovirus infection
2. Rubella infection
3. Toxoplasmosis
4. Human papillomavirus infection

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

50. Missed abortion is not diagnosed if
(a) vaginal bleed is brownish in colour
(b) uterus is smaller than gestational age
(c) external os is closed
(d) USG shows fetus with cardiac activity

51. As per the PC & PNDT Act, permission will be given to perform the tests for detection of which of the following?
1. Chromosomal abnormalities
2. Haemoglobinopathies
3. Sex-linked genetic diseases

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

52. Which of the following are indications for early clamping of umbilical cord at delivery?
1. Rh incompatibility
2. Baby born to a diabetic mother
3. Maternal anemia
4. Birth asphyxia

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

53. The definition of gestational hypertension includes which of the following?
1. Sustained rise of blood pressure to 140/90 mm of Hg or more at least on two occasions 12 hours apart at any period of pregnancy
2. Sustained rise of blood pressure to 140/90 mm of Hg beyond 40 hours of delivery
3. Sustained rise of blood pressure to 140/90 mm of Hg on two occasions 4 or more hours apart
4. Pregnancy should be more than 20 weeks

Select the correct answer using the code given below.
(a) 2 and 4
(b) 3 and 4
(c) 1
(d) 3 only

54. A 27-year-old female is complaining of grayish white discharge with fishy odour. There is no history of itching associated with discharge. Which one of the following is the most likely diagnosis?
(a) Trichomoniasis
(b) Candidiasis
(c) Urinary tract infection
(d) Bacterial vaginosis

55. Which of the following are contraindications for insertion of Intrauterine Contraceptive Device (IUCD)?
1. Age 35 years
2. Suspected pregnancy
3. Acute pelvic infection
4. Severe dysmenorrhea

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

56. Regarding the phenomenon of 'lightening' in primigravida at term pregnancy, which one of the following statements is correct?
(a) It is a welcome sign since it indicates descent fetal head into pelvis.
(b) There are no bladder or bowel symptoms associated with this phenomenon.
(c) It occurs later and just before labour in primigravida compared to multigravida.
(d) It is associated with worsening of cardiorespiratory embarrassment in mother.

57. The first-line treatment of Group β Streptococcal (GBS) infection in pregnancy is
(a) penicillin
(b) azithromycin
(c) doxycycline
(d) vancomycin

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58. Which of the following are included in the combined prenatal screening tests in first trimester?
1. β-hCG
2. MS AFP (α-Fetoprotein)
3. Nuchal translucency
4. PAPP-A

Select the correct answer using the code given below:
(a) 1, 2, 3 and 4
(b) 1, 2 and 3 only
(c) 1, 3 and 4 only
(d) 2 and 4 only

59. In hyperemesis gravidarum, Wernicke's encephalopathy is seen due to the deficiency of
(a) vitamin B6
(b) vitamin B1
(c) vitamin B12
(d) vitamin B4

60. Which of the following are correct regarding Placental Site Trophoblastic Tumour (PSTT)?
1. Low serum β-hCG
2. Composed mainly of cytotrophoblast
3. Highly responsive to chemo radiation
4. Local invasion into myometrium

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

61. Metroplasty is the surgical procedure done for which one of the following uterine anomalies?
(a) Septate uterus
(b) Arcuate uterus
(c) Uterus didelphys
(d) Imperforate hymen

62. Which of the following are the clinical features of hyperprolactinemia?
1. Hypergonadotropic hypogonadism
2. Hypogonadotropic hypergonadism
3. Oligomenorrhea
4. Heavy menstruation

Select the correct answer using the code given below.
(a) 1 and 3
(b) 1 and 4
(c) 2 and 3
(d) 2 and 4

63. Which of the following are effective in the management of premenstrual syndrome?
1. Niacin (vitamin B3)
2. Combined oral contraceptive pills
3. Diuretics
4. Hysterectomy with oophorectomy

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

64. Which one of the following blood tests is the marker of ovarian reserve?
(a) β-hCG
(b) Anti-Mullerian hormone
(c) Placental alkaline phosphatase
(d) Serum estradiol

NODIA

65. In the PALM-COEIN classification by FIGO for abnormal uterine bleeding, O—ovulatory dysfunction is the cause in which one of the following conditions?
(a) Adenomyosis
(b) Pelvic inflammatory disease
(c) Polycystic ovarian syndrome
(d) Ovarian cancer

66. Which of the following are correct regarding genital warts (condyloma acuminata)?
1. It is usually single.
2. It is related to HPV Types 6 and 11.
3. It can be transmitted sexually.
4. It can involve vagina and anus.

Select the correct answer using the code given below.
(a) 1, 2, 3 and 4
(b) 2, 3 and 4 only
(c) 1, 2 and 3 only
(d) 1 and 4 only

67. Which of the following are correct regarding endometrial cancer?
1. Persistent progesterone stimulation is an important etiology.
2. It is more common in white population.
3. HNPCC (Hereditary Nonpolyposis Colorectal Cancer) syndrome is a high risk factor.
4. Adenocarcinoma is the commonest histopathology.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

68. The reference point 'zero' in POPQ (Pelvic Organ Prolapse Quantification) classification is taken as
(a) ischial spine
(b) perineal body
(c) mid-vagina
(d) hymen

69. Which of the following are the various treatment options for Twin-Twin Transfusion Syndrome (TTTS)?
1. Septostomy
2. Laser photocoagulation
3. Selective fetal reduction

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

70. Which of the following drugs should be avoided in labouring women with bronchial asthma?
1. Opioid analgesics
2. Prostaglandin F2α
3. Prostaglandin E1
4. Ergometrine

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

71. Which of the following are the complications of malaria in pregnancy?
1. Thrombocytopenia
2. Metabolic alkalosis
3. Hypoglycemia
4. Disseminated intravascular coagulation

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

72. Which of the following are correct regarding drospirenone?
1. It is a fourth generation progestin.
2. It has antiandrogenic property.
3. It has antimineralocorticoid action.
4. It is safe in renal failure patients.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

73. Which of the following symptoms are related to ectopic pregnancy?
1. Acute abdominal pain following amenorrhea
2. Abdominal pain with bleeding P/V
3. Fainting attack with shoulder pain
4. Painless continuous bleeding

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

74. Premenstrual Syndrome (PMS) should fulfill which of the following criteria?
1. It is not related to any organic lesion.
2. It regularly occurs during the luteal phase and each ovulatory menstruation cycle.

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3. Symptoms must be severe enough to disturb the lifestyle of women and seeks medical help.
4. Symptoms persist after the period also.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

75. Which of the following statements are correct regarding constriction ring?
1. Premature rupture of membranes is a high risk factor.
2. It is situated at the junction of upper and lower uterine segment.
3. Uterus never ruptures.
4. The ring is felt per abdomen.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

76. A patient delivered a live healthy baby 4 hours back. Now she has developed persistent severe pain in the perineal region and rectal tenesmus. Local examination reveals a tense and tender purple swelling at the vulva. What is her probable diagnosis?
(a) Cervical tear
(b) Perineal tear
(c) Pelvic hematoma
(d) Ruptured uterus

77. Which of the following are included in the management of cord prolapse during delivery?
1. Bladder emptying
2. Knee-chest position of the patient
3. Preferably caesarean delivery
4. Lifting up the presenting part of the cord

Select the correct answer using the code given below.
(a) 2 and 3 only
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

78. Which of the following statements have obstetric significance at the level of plane of least pelvic dimensions?
1. It is a landmark used for pudendal nerve block analgesia.
2. Deep transverse arrest usually occurs at this plane.
3. It is at this plane that the internal rotation of the fetal head occurs during labour.
4. It marks the beginning of the backward curve of the pelvic axis.

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

79. Which surgery is most likely to disturb the paracervical nerve plexus resulting in atonicity of the bladder?
(a) Vaginal hysterectomy
(b) Radical hysterectomy
(c) Simple hysterectomy
(d) Myomectomy

80. The patency of fallopian tubes can be clinically tested by which of the following methods?
1. Sonosalpingogram
2. Hysterosalpingogram
3. CT scan
4. Laparoscopic chromotubation

Select the correct answer using the code given below.
(a) 1, 2 and 4
(b) 1, 3 and 4
(c) 1, 2 and 3
(d) 2, 3 and 4

81. In swimming pools, the free residual chlorine required for providing adequate protection against bacterial and viral agents should be
(a) 0·5 mg/litre
(b) 1·0 mg/litre
(c) 1·5 mg/litre

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(d) 2·0 mg/litre

82. Which of the following will be target population for screening of diabetes?
1. Women who have had a baby weighing more than 4–5 kg
2. People over 40 years of age
3. People with family history of diabetes

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

83. With reference to Indian men, who can be categorized to be carrying out 'moderate work', what is the Recommended Dietary Allowance (RDA) of thiamine (in mg/day)?
(a) 1·0
(b) 1·4
(c) 1·8
(d) 1·2

84. For the treatment of kala-azar, the daily dose of miltefosine in a 3-year-old child who weighs 15 kg is
(a) 10 mg
(b) 20 mg
(c) 30 mg
(d) 40 mg

85. The single most sensitive tool for evaluating the iron status in an individual is
(a) haemoglobin concentration
(b) serum iron concentration
(c) serum ferritin value
(d) serum transferrin saturation

86. Which of the following criteria must be met by a disease before it is to be considered suitable for a screening programme?
1. The natural history of the disease should be adequately understood.
2. No effective treatment should exist for the disease.
3. The disease should not have a recognizable latent or asymptomatic stage.
4. There should be a test that can detect the disease prior to onset of signs and symptoms.

Select the correct answer using the code given below:
(a) 1 and 2
(b) 1 and 4
(c) 3 and 4
(d) 2 and 4

NODIA

87. As a part of the Universal Immunization Programme in India, the Inactivated Polio Vaccine (IPV) given as fractional IPV by intradermal route is administered at what age/ages?
1. Birth
2. 6 weeks
3. 14 weeks
4. 9 months

Select the correct answer using the code given below.
(a) 1
(b) 2 only
(c) 2 and 3
(d) 2 and 4

88. Consider the following:
1. Intravenous tubes
2. Catheters
3. Gloves
4. Blood bags

Which of the above-mentioned biomedical wastes will be segregated in Red bag as per the Biomedical Waste Management Rules, 2016?
(a) 1, 2 and 4
(b) 1, 3 and 4
(c) 2, 3 and 4
(d) 1, 2 and 3

89. Which of the following parameters are required for calculating the Human Development Index?
1. Life expectancy at birth
2. Infant mortality rate
3. Gross national income per capita
4. Mean years of schooling

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

90. Which of the following statements regarding the Open Vial Policy, 2015 are correct?
1. It applies only for DPT, TT, Hepatitis B, OPV and Liquid Pentavalent vaccine.
2. Vaccine vials opened in session-site can be used again provided a vaccine vial monitor has not reached the discard point.
3. Open vial should never be submerged in water.
4. Open vials of BCG, Measles and JE should be preserved till the next immunization session.

Select the correct answer using the code given below.
(a) 1, 2, 3 and 4
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 3 and 4 only

91. Which of the following statements are correct in respect of haemophilia?
1. It is hereditary bleeding disorder.
2. It has a higher incidence among Asians.
3. It affects females occasionally and mildly.

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

92. To prevent neonatal tetanus in an infant born to a woman who has not been given Tetanus Toxoid (TT) appropriately during pregnancy, what should ideally be done?
(a) Give one dose of TT immediately
(b) Injection Antitoxin Serum (ATS) has to be administered within 6 hours of birth
(c) Give one dose of TT and one dose of ATS within 6 hours of birth
(d) Give one dose of TT and one dose of ATS after 72 hours of birth

93. What is the shelf life of Dukoral (wc-rBS) oral vaccine used for cholera prevention, when stored at a temperature of 2 °C to 8 °C?
(a) 5 years
(b) 3 years
(c) 1 year
(d) 6 months

94. Which of the following are correct in respect of incidence rate?
1. It is a sum total of new and old cases.
2. It refers to a specified period of time.
3. It refers to a defined population.
4. It must include the unit of time in final expression.

Select the correct answer using the code given below.
(a) 2, 3 and 4
(b) 1, 2 and 3
(c) 1, 2 and 4
(d) 1, 3 and 4

95. Forty patients with diarrhoeal diseases were studied. Their age distribution is given in the table below:

Age (in years)	0–4	5–9	10–14
Number of patients	22	12	6

What is the mean age of the patients in this study?
(a) 2 years
(b) 4 years
(c) 5 years
(d) 6 years

96. Which one of the following international agencies focuses on the 'Country Health Programming' approach?
(a) The United Nations Development Programme (UNDP)
(b) The United Nations Children's Fund (UNICEF)
(c) The United Nations Population Fund (UNFPA)
(d) The United States Agency for International Development (USAID)

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97. Which of the following statements are true about 'End TB Strategy'?
1. The strategy goes beyond patient care to promote TB prevention.
2. The targets are to be achieved by 2035.
3. The milestone for 2025 is to reduce the TB deaths by 35% compared to 2015.
4. The strategy identifies four barriers to achieve progress in fight against TB.

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

98. Which one of the following is the commonest extra-salivary gland manifestation of mumps in adults?
(a) Pancreatitis
(b) Polyarthritis
(c) Hydrocephalus
(d) Orchitis

99. All cases of severe measles and all cases of measles in areas with high case fatality rate need to be treated with which of the following vitamins?
(a) Vitamin A
(b) Vitamin C
(c) Vitamin D
(d) Vitamin K

100. Consider the protein content of the following food items (in terms of grams per 100 grams of food):
1. Cow milk
2. Meat
3. Soya bean
4. Sugar

What is the correct descending order (highest to lowest) of protein content?
(a) 2 → 1 → 3 → 4
(b) 3 → 1 → 2 → 4
(c) 3 → 2 → 1 → 4
(d) 2 → 3 → 4 → 1

101. Which of the following are modifiable risk factors for coronary heart disease?
1. Age
2. Cigarette smoking
3. Obesity
4. Sedentary habits

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

102. Determination of alpha-fetoprotein levels in maternal serum is a useful screening tool for
(a) congenital hypothyroidism
(b) Duchenne muscular dystrophy
(c) phenylketonuria
(d) neural tube defects

103. Consider the phases of a family life cycle:
1. Contraction
2. Dissolution
3. Extension
4. Formation

What is the correct order of the phases from first to last?
(a) 4 → 3 → 2 → 1
(b) 2 → 1 → 3 → 4
(c) 4 → 3 → 1 → 2
(d) 1 → 2 → 3 → 4

104. Which of the following services are provided to pregnant women under the Integrated Child Development Scheme (ICDS)?
1. Health check-up
2. Immunization against tetanus
3. Supplementary nutrition
4. Nutrition and health education

Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 1, 2 and 4 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

NODIA

105. Which of the following are the principal causes of infant mortality in India?
1. Acute respiratory infections
2. Congenital anomalies
3. Childhood cancers
4. Diarrhoeal diseases

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

106. Throughout history, humans have been adapting environment to the genes more than adapting genes to the environment. Adapting environment to the genes is called
(a) eugenics
(b) acculturation
(c) euthenics
(d) euphencis

107. In a town, a study was carried out to determine the role of cigarette smoking in causation of lung cancer. It was found that a total of 7000 people in the town were smokers. Of them, 70 developed lung cancer. In the same town, 3000 people were non-smokers. Of them, 3 developed lung cancer. Given these numbers, what would be the attributable risk to cigarette smoking for lung cancer?
(a) 10%
(b) 30%
(c) 60%
(d) 90%

108. A town in the hills had a mid-year population of 250000 in the year 2021. During the same year, the death registry of the town recorded 1500 deaths due to tuberculosis in 365 calendar days. Given these facts, what is the specific death rate for tuberculosis in the town?
(a) 1
(b) 6
(c) 10
(d) 60

109. Which of the following 'rare vaccine reactions' are known to occur with BCG vaccine?
1. Suppurative lymphadenitis
2. Guillain-Barre syndrome
3. Osteitis
4. Disseminated infection

Select the correct answer using the code given below.
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

110. Which one of the following vaccines is known to interfere with the Yellow Fever vaccine if administered within 3 weeks of each other?
(a) Typhoid vaccine
(b) Cholera vaccine
(c) Tetanus toxoid
(d) Measles vaccine

111. Regarding the Vandemataram Scheme, consider the following statements :
1. It is a voluntary scheme wherein any obstetrician, maternity home, nursing home, MBBS doctor can provide safe motherhood services.
2. The enrolled doctors must provide iron and folic acid tablets out of their pocket free to the beneficiaries.
3. The TT injections are provided by the District Medical Officers to the enrolled doctors for free administration to the beneficiaries.
4. To join the Vandemataram Scheme, the facility must have resources for caesarean section.

Which of the statements given above are correct?
(a) 1 and 2
(b) 1 and 3 only
(c) 3 and 4 only
(d) 1, 3 and 4

112. Consider the following measures which can help make 'unlined katcha wells' sanitary :
1. Deepening the bottom
2. Filling the well with clay up to the water level and with coarse sand above that level

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3. Installing a hand pump with screen
4. Constructing a platform and drainage once the material used for filling is completely consolidated

Which of these measures hold good in making unlined katcha wells sanitary?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

113. In which way is 'membrane filtration technique' better than 'multiple tube method' for determining the presence of coliform organisms in water?
(a) Membrane filtration technique is much quicker and results can be obtained within 20 hours, while multiple tube method is much longer.
(b) Membrane filtration technique is far more cheaper than multiple tube method.
(c) Membrane filtration technique is universally available, and hence, easily doable.
(d) Membrane filtration technique can be employed by all and sundry, whereas multiple tube method can only be carried out by trained hands.

114. Of the following amino acids required by the human body, which one falls under the category of 'essential' amino acid?
(a) Arginine
(b) Threonine
(c) Serine
(d) Proline

115. Consider the following statements with reference to the National Framework for Malaria Elimination in India, 2016–2030:
1. The goal is to eliminate indigenous cases throughout the country by 2030.
2. By 2022, transmission of malaria is to be interrupted and indigenous cases brought to zero in all 26 States/UTs that were under Categories 1 and 2 in 2014.
3. By 2026, incidence of malaria is to be reduced to less than 1 case per 1000 population in all States and UTs, and their districts.
4. By 2030, indigenous transmission of malaria is to be interrupted in all States and UTs of India.

Which of the statements given above hold true?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

116. With reference to determinants of 'neonatal mortality', consider the following statements :
1. Neonatal mortality is directly related to the birth weight of the newborn.
2. Neonatal mortality is directly related to the gestational age at which the birth takes place.
3. Neonatal mortality is closely related to the educational status of the mother.
4. Neonatal mortality is low if the mother's age is between 15–16 years.

Which of the statements given above are correct?
(a) 1 and 4 only
(b) 2 and 3 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

117. As per the definition of the World Health Organization, 'late maternal death' is defined as the death of a woman from direct or indirect obstetric causes, after more than X days but less than one year after termination of pregnancy. Which one among the following is the correct value of X?
(a) 7
(b) 21
(c) 42
(d) 84

NODIA

118. In a newborn, the Apgar score has been recorded at 1 minute of birth. The doctor recorded the following observations:

Sign	Finding
Heart rate	92 per minute
Respiratory effort	Slow, irregular
Muscle tone	Flaccid

Reflex response	No response
Colour	Body pink, extremities blue

Which one of the following best reflects the Apgar score of this newborn infant on a scale of 0 to 10?

(a) 0
(b) 2
(c) 3
(d) 5

119. The following table shows some of the pneumoconiosis diseases along with the most implicated causative chemical agents. Which among the following represent the correct combinations of diseases and causative chemical agents?

	Pneumoconiosis	**Causative chemical agent**
1.	Anthracosis	Coal dust
2.	Bagassosis	Silica dust
3.	Byssinosis	Cotton dust
4.	Siderosis	Asbestos

Select the correct answer using the code given below.

(a) 1 and 2
(b) 1 and 3
(c) 2 and 3
(d) 2 and 4

120. The following table shows the 'Total Fertility Rate (TFR)' by the Wealth Index, as per the National Family Health Survey, (NFHS–4) findings :

Wealth Index	**TFR**
Lowest	3·17
Second	2·45
Middle	2·07
Fourth	1·84
Highest	1·54
Total	2·18

Which among the following is/are correct about the information?

1. The divisions of Wealth Index in the NFHS–4 can be called 'quartiles'.
2. The information given in the table can be presented as a pie chart.
3. The Wealth Index was calculated in NFHS–4 by asking about the per capita income.
4. Each of the higher divisions of the Wealth Index had lower TFR than the previous (or lower) division.

Select the correct answer using the code given below.

(a) 1 and 2
(b) 1 and 4
(c) 3
(d) 4 only

END

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PAPER 2022 ANSWERS

1. (c) may be caused by fungi or bacteria

Mycetoma (Madura foot) is a persistent infection of subcutaneous tissues typically caused either by filamentous bacteria (Actinomycetoma) or by true fungi (Eumycetoma). It enters through puncture wounds, not via the bloodstream, and can spread to deeper structures over time. The disease characteristically produces tumefaction, draining sinuses, and "grains" in the exudate. Its etiology being either fungal or bacterial is the main hallmark. Superficial structures alone are not the only ones affected; deeper tissues are often involved as well.

2. (b) 1, 2 and 4

Buerger's disease (thromboangiitis obliterans) predominantly affects small to medium-sized arteries and is strongly linked to tobacco use. It commonly presents in younger smokers and involves ischemic changes in the extremities. While both lower and upper limbs can be affected, the key factors are smoking-related vascular inflammation and thrombosis in distal vessels. Crucially, cessation of smoking can arrest or reverse ongoing inflammatory changes, preventing further vascular compromise. Smoking is thus a central factor in both disease progression and its management.

3. (c) aortoiliac segment

In duplex (B-mode) ultrasound, visualization can be hampered by overlying bowel gas, adipose tissue, and deep anatomical positioning. The aortoiliac segment is particularly challenging in obese patients because the iliac region lies deeper in the pelvis, often behind intestinal loops. Bowel gas further impedes the ultrasound beam, making clear imaging difficult. By contrast, the carotid vessels are superficial in the neck, and the abdominal aorta above the renal arteries is generally easier to image subcostally than the distal aortoiliac portion.

NODIA

4. (a) 1, 2 and 3

In a standard modified radical mastectomy, the axillary vein should be preserved to maintain venous return from the upper limb. The long thoracic nerve (innervating serratus anterior) and the thoracodorsal nerve (to latissimus dorsi) must also be saved to prevent winged scapula and preserve shoulder/arm function, respectively. While surgeons try to spare the intercostobrachial nerve (sensory to the inner upper arm) if feasible, it is sometimes sacrificed for adequate lymphatic clearance, so it is not considered absolutely mandatory in all cases.

5. (b) hypochloraemic alkalosis

When there is an obstruction at the gastric outlet, patients typically vomit gastric acid (hydrochloric acid). With the loss of H^+ and Cl^- ions, the body develops a metabolic alkalosis and a reduced serum chloride level (hypochloraemia). This process is also associated with hypokalaemia as the kidneys attempt to conserve hydrogen ions, increasing potassium excretion. Together, this produces the classic hypochloraemic, hypokalaemic metabolic alkalosis picture seen in prolonged vomiting or gastric outlet obstruction.

6. (c) 24-hour pH recording

While endoscopy can reveal esophagitis or other structural changes, it does not always detect reflux events unless there is visible damage. The 24-hour esophageal pH monitoring test directly measures acid reflux episodes, quantifying the frequency and duration of acid exposure in the lower esophagus. Because it correlates patients' symptoms with actual acid reflux, it remains the definitive (gold standard) diagnostic investigation for GERD. Endoscopy and barium studies serve important roles but are less sensitive for subtle or non-erosive reflux disease.

7. (b) 1, 2 and 4

Incisional hernias often occur due to poor wound healing. Malnutrition and immunocompromise

lead to inadequate tissue repair, weakening the suture line. Postoperative wound infection breaks down collagen and disrupts healing, greatly increasing hernia risk. Non-absorbable suture material, on the other hand, is not itself a typical risk factor; in fact, many surgeons use non-absorbable or slowly absorbable sutures to help prevent hernias. Hence, malnutrition, infection, and immunocompromised states are all well-recognized contributors to incisional hernia formation.

8. (d) 1, 2 and 4

Papillary carcinoma is the most frequently occurring malignant thyroid tumor, especially in younger women. It typically spreads via lymphatics rather than the bloodstream, which explains why hematogenous spread is not characteristic. Most often, it presents with painless thyroid nodules or cervical lymphadenopathy, but distant metastases are relatively rare. When treated appropriately (surgery with or without radioactive iodine), its prognosis is generally excellent, making papillary carcinoma one of the more favorable endocrine malignancies in terms of long-term outcomes.

9. (d) Anteriorly located duodenal ulcers are 'more prone for perforation'.

Duodenal ulcers most often occur in the first part (duodenal bulb), not the third part. They are more common in males than in females. Gastric ulcers do carry a risk of malignancy, requiring biopsy for confirmation. Anterior duodenal ulcers, specifically, have a higher likelihood of perforating through the serosa into the peritoneal cavity, causing acute peritonitis. Posterior ulcers, in contrast, more often erode into the gastroduodenal artery, leading to bleeding rather than perforation.

10. (b) 2, 3 and 4

Annular pancreas occurs when the ventral (not dorsal) pancreatic bud abnormally encircles the second part of the duodenum, forming a ring of pancreatic tissue. This can cause duodenal narrowing or obstruction, frequently presenting as neonatal feeding intolerance and vomiting. In adults, partial obstruction might manifest later with peptic ulcer or fullness. Duodenoduodenostomy surgically bypasses the constricting ring and is the preferred definitive treatment, effectively relieving the obstruction while preserving normal pancreatic drainage.

11. (b) 1, 2 and 4

The severity of acute pancreatitis is assessed using several scoring systems to predict outcomes, guide treatment, and estimate the risk of complications. The most commonly used scoring systems for acute pancreatitis include:

1. Ranson and Glasgow Score: The Ranson criteria are used specifically for acute pancreatitis and involve multiple clinical and laboratory parameters at admission and within 48 hours. The Glasgow score (also known as the Imrie score) is similar and is particularly used for acute pancreatitis of biliary and non-biliary origin.
2. APACHE (Acute Physiology and Chronic Health Evaluation) Score: The APACHE II score is a general intensive care scoring system used to assess the severity of acute pancreatitis by evaluating multiple physiological parameters. It is particularly useful for early assessment and monitoring.
3. Modified Marshall Score: This score assesses organ failure in acute pancreatitis, focusing on respiratory, cardiovascular, and renal systems. It is a crucial component of the Revised Atlanta Classification of acute pancreatitis severity.
4. MELD (Model for End-Stage Liver Disease) Score: The MELD score is not used for assessing acute pancreatitis severity. Instead, it is used primarily to evaluate liver function and prioritize liver transplant candidates.

Therefore, the correct answer is (b) 1, 2 and 4, as these scoring systems are relevant to acute pancreatitis.

12. (a) 1, 2 and 3.

The liver is the most commonly injured organ in abdominal trauma due to its size and vascularity.

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Haemodynamically unstable patients or those with free intraperitoneal fluid on FAST require immediate surgical exploration (laparotomy).
Contrast-enhanced CT is the preferred imaging modality for haemodynamically stable patients to assess liver injury.
Blunt liver injuries are more common but typically have lower mortality than penetrating injuries due to slower bleeding and tamponade effect. Hence, statement 4 is incorrect, making option (a) the correct choice.

13. (d) reservoir function.

The spleen primarily functions in immune response (producing antibodies and lymphocytes), filtering blood (removing old or damaged RBCs), and pitting function (removing inclusions from RBCs without destroying them). While the spleen can store some blood, its reservoir function is minimal in humans compared to other animals like dogs and horses. In humans, the spleen does not serve as a major blood reservoir since the venous system and liver take on this role more effectively. Thus, the least marked function of the spleen is its reservoir function, making option (d) correct.

14. (d) 2, 3, and 4.

Retroperitoneal fibrosis (RPF) is a rare disorder characterized by excessive fibrotic tissue in the retroperitoneal space. Lymphoma (2) can cause RPF due to tumor-related inflammation and fibrosis. Drugs (3), such as ergot derivatives, beta-blockers, and methysergide, are known triggers. Carcinoid tumors (4) can induce fibrosis due to excessive serotonin and other vasoactive substances. However, Continuous Ambulatory Peritoneal Dialysis (CAPD) (1) is not a recognized cause of RPF. It primarily affects the peritoneum rather than the retroperitoneal space, making option (d) the correct answer.

15. (a) cerebral metastasis.

Cerebral metastases are the most common brain tumors in adults, originating from primary cancers such as lung, breast, melanoma, kidney, and colorectal cancers. They are more frequent than primary brain tumors. Gliomas (b), including astrocytomas and glioblastomas, are the most common primary brain tumors but occur less frequently than metastases. Pituitary tumors (c) and vestibular schwannomas (d) are relatively common but do not surpass metastases in incidence. Brain metastases often present with multiple lesions and rapid progression, making them a critical concern in neuro-oncology. Thus, cerebral metastasis is the most common brain tumor in adults.

16. (b) 1, 2 and 4

Brain tumors classically present with features of raised intracranial pressure (headache, vomiting, papilledema), seizures, and focal neurological deficits. While visual field deficits (anopia) can occur if the tumor affects the optic pathways, “anopia” is not universally part of the classic triad. Hence, the recognized triad is raised ICP, seizures, and focal deficit. Raised ICP is common due to mass effect, seizures arise from cortical irritation, and focal deficits result from local brain parenchymal involvement.

17. (a) urgent

In the commonly used mass casualty/trauma triage system, red denotes “immediate” care for life-threatening problems, yellow typically stands for “urgent/delayed” care (can wait a short period but still needs prompt treatment), green for “minor” or “walking wounded,” and black for “unsalvageable” or deceased. Thus, a patient tagged with a yellow code is stable enough to delay treatment briefly but still requires intervention in a timely fashion. This system ensures that resources are directed where they are needed most urgently.

18. (b) endoscopic washouts and antibiotics

Recurrent parotid swelling in children with punctate sialectasis on imaging suggests juvenile recurrent parotitis or chronic sialadenitis. While antibiotics can help control acute infections, persistent sialectasis and stasis predispose to repeated attacks. Endoscopic sialendoscopy (washouts) with saline and antibiotic irrigation helps clear debris and improve ductal drainage, reducing the frequency of recurrences. Total or major parotidectomy is considered excessive for most children, and radiotherapy

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is inappropriate. Thus, endoscopic washouts plus antibiotics is the recommended, minimally invasive approach.

19. (d) associated injuries of abdomen or chest

In isolated head injuries, intracranial bleeding alone seldom causes significant hypotension unless extremely severe. The most common reason for hypotension in trauma patients, even those with major head injury, is usually hemorrhage from other sources like abdominal (liver, spleen) or thoracic (lung, great vessels) injuries. Hemorrhagic shock from these locations can rapidly drop blood pressure. Neurogenic shock from brain injury is more typical of spinal trauma rather than head trauma. Hence, simultaneous abdominal or chest injury is the prime suspect.

20. (a) 1, 2 and 3

The nature and extent of preoperative tests depend on the type of planned surgery (major vs. minor, abdominal vs. cardiac, etc.) and the patient's comorbidities (cardiac disease, diabetes, hypertension), because these factors change the risk profile and need for specific workups (e.g. cardiac clearance, kidney function tests). Patient origin can matter if there are endemic diseases or resource variations that necessitate special testing (e.g. tuberculosis screening or parasitic workups). The surgeon's experience typically does not alter standard investigation protocols.

21. (c) 1, 3 and 4

According to the Tokyo Guidelines, Grade II (moderate) acute cholecystitis is suggested by factors such as a high white blood cell count (>18,000/mm^3), symptom duration over 72 hours, and marked local inflammation (e.g. gangrenous changes). Organ dysfunction (e.g. renal failure) pushes the diagnosis to Grade III (severe) cholecystitis. Thus, for Grade II, items 1, 3, and 4 apply, while renal dysfunction (item 2) is classified under severe disease.

22. (d) 60%–80%

Even after full healing and collagen remodeling, scar tissue never attains the same tensile strength as uninjured skin. Common teaching is that a mature scar (many months to a year post-injury) may reach about 70–80% of normal skin strength. Early in healing, tensile strength is very low, but it progressively increases as collagen matures and crosslinks. However, it rarely—if ever—achieves 100% of the original tissue's structural strength.

23. (c) ischium

Although the sacrum is overall the single most common pressure sore site in bedbound patients, among the listed options, the ischial tuberosities (particularly in wheelchair-bound or seated patients) are the typical hot spots. Prolonged pressure over bony prominences with inadequate repositioning or poor nutrition leads to compromised blood flow and tissue necrosis. The occiput may be at risk in bedridden infants or comatose patients, but the ischial region is classically cited as a frequent location for deep pressure ulcers.

24. (a) 1, 2 and 3

The well-known "triple assessment" for a suspicious breast lump includes:

1. Clinical examination (history and physical),
2. Radiological evaluation (mammography ± ultrasound), and
3. Pathology/cytology (core needle biopsy or fine-needle aspiration for cells/tissue).

These three steps together provide a high diagnostic accuracy. Sentinel lymph node biopsy is an important staging procedure but is not typically classified within the traditional "triple test."

25. (b) 1, 2 and 4

Crohn's disease can be accompanied by various extraintestinal features. Amyloidosis (secondary) can arise from chronic inflammation, though it is less common. Pyoderma gangrenosum, while more frequent in ulcerative colitis, can also appear in Crohn's. Certain arthropathies (particularly large-joint types) may parallel intestinal flare-ups. Primary sclerosing cholangitis is more strongly linked to ulcerative colitis rather than Crohn's. Thus, 1, 2, and 4 are

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recognized extraintestinal manifestations that can be seen in Crohn's disease, although their exact correlation with disease flares can vary.

26. (c) 50% arise from stomach

Gastrointestinal stromal tumors (GISTs) originate from the interstitial cells of Cajal in the GI tract wall, not the epithelial layer. About 60–70% (roughly half or more) occur in the stomach, making it the single most common site. Their gender ratio is not as skewed as 9:1, and they generally favor hematogenous spread (especially to the liver) rather than lymphatic spread. The hallmark immunohistochemical marker is CD117 (c-KIT).

27. (c) 1, 3 and 4

Achalasia management focuses on reducing lower esophageal sphincter (LES) pressure. Botulinum toxin injections (endoscopic) can temporarily relieve symptoms by relaxing the LES. Pneumatic balloon dilation physically disrupts LES muscle fibers. Heller's myotomy surgically cuts those fibers and is often combined with a partial fundoplication to prevent reflux. Beta blockers are not standard for achalasia (calcium channel blockers or nitrates can be tried medically, but with limited efficacy).

28. (c) 1, 3 and 4

Viable bowel typically shows active peristalsis, a shiny (glistening) serosal surface, and strong mesenteric arterial pulsations. Such features suggest adequate blood flow, intact mucosal integrity, and functional muscular activity. "Flabby" or atonic bowel, by contrast, signals compromised or necrotic tissue with poor tone. Surgeons evaluate color, peristalsis, wall thickness, and pulsations before deciding whether resection or salvage is appropriate in cases of strangulation or ischemia.

29. (d) 1, 2 and 3

Duodenal ulcers outnumber gastric ulcers overall, especially in many populations. Helicobacter pylori infection and NSAID use are indeed the two most frequent etiological factors in peptic ulcer disease. Posterior duodenal ulcers tend to erode into the gastroduodenal artery, making bleeding the most common major complication at this location. In contrast, anterior duodenal ulcers are more prone to perforation. Thus, all three statements—regarding relative frequency of duodenal over gastric ulcers, common causes (H. pylori, NSAIDs), and bleeding in posterior ulcers—are correct.

30. (c) 1, 3 and 4

Budd-Chiari syndrome arises when hepatic venous outflow is obstructed—typically from thrombosis in the hepatic veins. In many cases, it is linked to inherited or acquired hypercoagulable conditions, including deficiencies of protein C, protein S, or antithrombin III. Clinically, acute Budd-Chiari typically features right upper quadrant pain (abdominal discomfort), hepatomegaly, and ascites. It does not specifically favor young males only; it can appear in various demographics, including young females on oral contraceptives or patients with polycythemia vera.

31. (b) 2, 3 and 4

Ranson's criteria at admission are traditionally: (1) Age 55 years, (2) WBC count 16,000/mm^3, (3) Blood glucose 200 mg/dL, (4) Serum LDH 350 IU/L, and (5) AST 250 IU/L. Because the classic threshold for the WBC is 16,000 rather than 15,000/mm^3, item "1" in the question does not match the standard cutoff. In contrast, high blood glucose (>200), elevated LDH (>350), and raised AST (>250) are firmly part of the admission criteria, making options 2, 3, and 4 correct.

32. (a) 1, 2 and 3

Cystic fibrosis (CF) is an autosomal recessive disease primarily affecting exocrine glands. The lungs exhibit chronic infections and bronchiectasis. The pancreas undergoes exocrine insufficiency due to thick secretions obstructing pancreatic ducts. Liver involvement (focal biliary cirrhosis or cholestasis) also occurs due to similarly inspissated secretions in bile ducts. Although CF can affect multiple systems, it does not typically cause direct renal (kidney)

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dysfunction in the same classical manner. Thus, lungs, liver, and pancreas are the commonly affected organ systems.

33. (b) plaques of varying sizes

In peritoneal carcinomatosis, metastatic deposits often appear as irregular plaques of various sizes studding the peritoneal surfaces. These "cake-like" or plaque-like lesions can merge into larger areas and are characteristic of widespread intraperitoneal disease (e.g. ovarian, gastrointestinal malignancies). While small, discrete nodules or "drop metastases" can also occur, the most frequently observed morphological pattern overall is confluent or patchy plaques. "Diffuse adhesions" is more commonly associated with inflammatory processes like peritonitis rather than metastatic spread alone.

34. (b) Spigelian hernia

A Spigelian hernia protrudes through the Spigelian fascia, which is the aponeurotic layer between the lateral border of the rectus abdominis muscle and the semilunar line. Unlike direct or indirect inguinal hernias that pass through well-known inguinal regions, Spigelian hernias track between muscle layers of the anterior abdominal wall. Richter's, Amyand's, and Littre's hernias describe other specific hernia subtypes (involving partial bowel wall, the appendix, or a Meckel's diverticulum, respectively).

35. (a) 1, 2 and 3

Tension-free hernia repair implies that no undue stretching of tissues is required to close the defect. Stoppa's repair (bilateral preperitoneal mesh), Lichtenstein's repair (onlay mesh over the inguinal canal), and laparoscopic TEP (totally extraperitoneal) all place prosthetic mesh in a manner that does not rely on pulling tissue edges together. The Desarda technique, while sometimes described as "physiological," uses an external oblique aponeurosis flap rather than standard mesh and is often not classified among the traditional "tension-free" mesh repairs.

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36. (d) 1, 2, 3 and 4

Although surgery can be curative in early-stage non-small cell lung cancer, only a minority of patients present at a resectable stage, so overall "curative surgery" plays a relatively limited role in the total population. Oat cell (small cell) carcinoma behaves very aggressively, with a distinct pattern of rapid spread and poor prognosis, and is indeed a neuroendocrine tumor. Squamous cell carcinoma of the lung often cavitates centrally. All four statements accurately reflect known features of lung cancer.

37. (a) 1, 2 and 3

Epidermoid (epidermal) cysts, historically termed "sebaceous cysts," are lined by stratified squamous epithelium and are believed to arise from the infundibular portion of the hair follicle. They often display a central punctum and can contain keratinous debris. Although commonly referred to as "sebaceous" cysts, they do not arise from sebaceous glands. Typically, they are at least partially fixed to the skin (due to the punctum and epithelial lining), so statement 4 is untrue.

38. (a) 1, 2 and 3

Glomus tumors originate from the glomus body's specialized arteriovenous channels (Sucquet-Hoyer canals), which help regulate temperature in the digits. They often arise beneath the fingernail (nail bed) and appear as small, purple, exquisitely painful nodules. The hallmark is severe paroxysmal pain, typically disproportionate to the lesion's size, especially on pressure or minor temperature changes. They are certainly not painless, so statement 4 is incorrect.

39. (a) 1, 2 and 3

Felty's syndrome is a triad of rheumatoid arthritis, neutropenia (leading to overall leukopenia), and splenomegaly. Patients can present with frequent infections (due to low white cell count) and have advanced erosive joint disease from longstanding RA. Although splenectomy may help in select refractory cases (by removing a site of WBC sequestration),

69. (d) 1, 2 and 3

Twin-Twin Transfusion Syndrome arises in monochorionic twins with placental vascular anastomoses. Treatment can include:

1. Septostomy (creating an opening in the dividing membrane to equalize fluid pressures).
2. Laser photocoagulation of the shared vessels on the placenta, which is the more definitive approach.
3. Selective fetal reduction may be considered in severe cases where one fetus is at high risk and threatens the survival of the other.

Hence, all three (1, 2, 3) may be used in certain scenarios.

70. (b) 1, 2 and 4

In asthmatic parturients, Prostaglandin F2α (carboprost) is avoided because it can trigger bronchoconstriction. Ergometrine can similarly exacerbate bronchospasm. Opioid analgesics, especially morphine, can induce histamine release and respiratory depression—hence they are used extremely cautiously or avoided if possible in unstable asthma. On the other hand, Prostaglandin E1 (misoprostol) generally does not pose the same bronchoconstrictive risk and may be used if induction or uterotonics are needed in an asthmatic mother.

71. (c) 1, 3 and 4

Pregnancy with malaria (especially falciparum) can lead to several severe complications. Thrombocytopenia (1) often occurs due to increased platelet consumption and splenic sequestration. Hypoglycemia (3) can develop from both poor oral intake and parasite-induced increased glucose utilization. DIC (4) may ensue in severe or complicated malaria, contributing to bleeding tendencies. Metabolic alkalosis is not typically seen; if anything, metabolic acidosis is more common in severe malaria due to lactic acid accumulation.

72. (a) 1, 2 and 3

Drospirenone is a fourth-generation progestin structurally related to spironolactone, giving it notable antiandrogenic and antimineralocorticoid properties. This makes it useful for patients with acne, hirsutism, and premenstrual symptoms related to fluid retention. However, because drospirenone can raise serum potassium, caution is advised in patients with renal insufficiency; it is not considered "safe" in advanced renal failure. Thus, statements 1, 2, and 3 are correct, whereas no. 4 is not.

73. (a) 1, 2 and 3

Ectopic pregnancy often presents with a missed period (amenorrhea) followed by acute lower abdominal pain and possibly vaginal bleeding. Internal bleeding from a ruptured ectopic can irritate the diaphragm, leading to referred shoulder pain (Kehr's sign) and syncope (fainting). The bleeding is usually painful or at least accompanied by abdominal/pelvic discomfort, not typically "painless and continuous." Hence, statements 1, 2, and 3 are characteristic of ectopic; statement 4 describes a more classic scenario such as placenta previa.

74. (a) 1, 2 and 3

PMS describes distressing psychological, behavioral, and/or physical symptoms that:

1. Have no underlying organic pathology fully explaining them,
2. Occur in the luteal phase of repeated ovulatory cycles, and
3. Are severe enough to interfere with daily activities, often prompting medical advice.

Crucially, the symptoms resolve or substantially lessen soon after menstruation starts. They do not persist after the period, ruling out statement 4.

75. (b) 1, 2 and 4

In many texts, a "constriction ring" (often synonymous with a "retraction ring" in obstructed labor) can occur where the uterus focuses its contraction around the fetus, commonly at or near the junction of the upper and lower segments (2). Premature rupture of membranes (1) may predispose to malposition or abnormal labor, thus raising risk. In severe cases, the ring can be palpated abdominally

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47. (d) 6 weeks postpartum

After childbirth, the uterus involutes over a span of weeks until it returns nearly to its pre-pregnant size. By about 6 weeks postpartum, the uterus has typically returned to a non-pregnant (or close to non-pregnant) size and position in most women. Although a considerable amount of involution occurs in the first 2 weeks, complete restoration of normal dimensions usually takes until around 6 weeks.

48. (b) 1, 2 and 4

Ventouse (vacuum) extraction is commonly indicated in the second stage of labor for delay or arrest of descent, or for a non-reassuring fetal heart rate if the head is low and delivery is expected to be quick. Additionally, the fetal head must be in a vertex presentation, fully engaged, and the cervix fully dilated. Very preterm gestations (e.g., <34 weeks) are generally a contraindication due to the risk of scalp injury or intraventricular hemorrhage in the neonate.

49. (a) 1, 2 and 3

Classical TORCH infections—Toxoplasmosis, Rubella, and Cytomegalovirus—are well-recognized for causing intrauterine growth restriction (IUGR), congenital anomalies, and other fetal morbidities. HPV (human papillomavirus) is generally associated with genital warts or cervical neoplasms but not a known cause of significant fetal growth restriction. Hence, CMV (1), Rubella (2), and Toxoplasmosis (3) are the main infections from this list known to significantly impact fetal growth.

50. (d) USG shows fetus with cardiac activity

A missed abortion is a situation in which the fetus has died or failed to develop, but the products of conception have not yet been expelled. Typically, there is no fetal heartbeat on ultrasound, the uterus often measures smaller than expected, and the cervix remains closed. Brownish discharge can be present. If ultrasound reveals a fetus with cardiac activity, by definition, this is not a missed abortion—there is still a viable pregnancy.

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51. (d) 1, 2 and 3

India's Pre-Conception & Pre-Natal Diagnostic Techniques (PC & PNDT) Act strictly regulates prenatal testing. It does allow such tests when there is a risk of chromosomal abnormalities (e.g. Down syndrome), hemoglobinopathies (e.g. thalassemia), or known sex-linked genetic conditions (e.g. hemophilia) to prevent the birth of a child with serious genetic disease. However, the Act prohibits the misuse of these tests for sex determination leading to female feticide.

52. (b) 1, 2 and 4

In routine practice, delayed cord clamping is often encouraged to increase neonatal iron stores. However, in certain scenarios—Rh incompatibility (to reduce feto-maternal RBC mixing), infant of a diabetic mother (risk of neonatal polycythemia), or birth asphyxia (urgent need for resuscitation)—early clamping is done to expedite newborn stabilization and minimize some complications. Maternal anemia, on the other hand, is not an indication for early clamping; delaying cord clamping can in fact improve neonatal iron status.

53. (b) 3 and 4

Gestational hypertension is typically defined as a BP ? 140/90 mmHg on two separate occasions at least four hours apart after 20 weeks of gestation in a previously normotensive woman. Option (1) is incorrect because it does not stipulate the pregnancy must be beyond 20 weeks, and (2) references BP beyond 40 hours after delivery, which is not standard in diagnosing gestational hypertension. Thus, criteria (3) and (4) together reflect the widely accepted definition.

54. (d) Bacterial vaginosis

A thin, grayish-white discharge with a fishy odor (especially noticed after adding KOH—a "whiff test") is characteristic of bacterial vaginosis, most commonly caused by an overgrowth of Gardnerella vaginalis and other anaerobes. In BV, there is typically no significant vulvar

itching or irritation (unlike candidiasis or trichomoniasis). Candidiasis usually produces thick, curdy discharge with itching, while trichomoniasis often presents with frothy greenish discharge and pruritus.

55. (d) 2, 3 and 4

Key contraindications to IUCD (particularly Copper-T) include suspected pregnancy and active pelvic infection. Severe dysmenorrhea and/or menorrhagia can also be a strong relative contraindication for the copper IUCD because it may worsen bleeding and pain. However, being over 35 years old is not a contraindication; many women over 35 successfully use IUCDs. Thus, 2 (pregnancy), 3 (acute infection), and 4 (severe dysmenorrhea) are the correct contraindications here.

56. (a) It is a welcome sign since it indicates descent fetal head into pelvis.

"Lightening" refers to the descent of the fetal head into the maternal pelvis near the end of pregnancy, especially in primigravidas, and often occurs a few weeks before labor. Many mothers find it a "welcome sign" because it can relieve upper abdominal pressure, making breathing easier. However, increased pressure on the bladder may cause more frequent urination, so (b) is incorrect. In primigravidas, it typically happens earlier than in multigravidas, not later.

57. (a) penicillin

Intrapartum penicillin G (or ampicillin) is the standard first-line regimen for Group B Streptococcus prophylaxis and treatment in pregnancy. It effectively reduces vertical transmission and neonatal GBS sepsis. If the mother is penicillin-allergic, alternative agents (e.g., cefazolin or clindamycin, depending on susceptibility) may be used. Azithromycin and doxycycline are not the usual first choices, and vancomycin is reserved only if there is severe beta-lactam allergy with resistant isolates.

58. (c) 1, 3 and 4 only

The combined test in the first trimester (around 11–13+6 weeks) screens primarily for aneuploidies such as Down syndrome. It includes:

1. Free β-hCG in maternal blood,
2. PAPP-A (Pregnancy-Associated Plasma Protein-A), and
3. Nuchal translucency measurement by ultrasound.

Maternal serum alpha-fetoprotein (MS AFP) is typically measured in the second-trimester triple or quadruple test, not as part of the first-trimester combined screen.

59. (b) vitamin B1

Wernicke's encephalopathy—classically presenting with confusion, ataxia, and ophthalmoplegia—arises from severe thiamine (vitamin B1) deficiency. In pregnancy, prolonged vomiting (hyperemesis gravidarum) can deplete nutritional reserves, including thiamine. If intravenous glucose-containing fluids are given without adequate B1 replacement, the risk of Wernicke's encephalopathy further increases. This condition requires urgent correction with parenteral thiamine to prevent progression to Korsakoff syndrome or permanent neurological impairment.

60. (b) 1, 2 and 4

PSTT (Placental Site Trophoblastic Tumour) typically shows low or only moderately elevated β-hCG levels compared to other gestational trophoblastic neoplasms (choriocarcinoma usually gives very high hCG). PSTT is derived mainly from intermediate trophoblastic cells (sometimes referred to in older literature as mononuclear cytotrophoblast-like cells). It frequently demonstrates local invasion into the uterine wall. PSTT is notably less responsive to chemotherapy compared to choriocarcinoma; hysterectomy is often required. Hence statement 3 is incorrect, but 1, 2, and 4 are correct.

61. (a) Septate uterus

In cases of a septate uterus, the uterine cavity is divided by a fibrous or fibro-muscular septum that can adversely affect fertility and increase miscarriage risk. Metroplasty (often via hysteroscopic septal resection) is performed to

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remove or reduce this septum, restoring a more normal endometrial cavity. Arcuate uterus is a mild contour variation, while uterus didelphys involves two separate uterine bodies; neither typically employs "metroplasty." Imperforate hymen is a lower genital tract anomaly handled with a different surgical approach.

62. (c) 2 and 3

Excess prolactin depresses GnRH secretion, resulting in hypogonadotropic hypogonadism—characterized by low gonadotropins (LH, FSH) and low estrogen/testosterone levels. In women, this frequently manifests as oligomenorrhea or amenorrhea. Men may present with reduced libido and infertility. Heavy menstruation is not a typical finding; in fact, flow is often reduced or absent. "Hypergonadotropic hypogonadism" (high gonadotropins, low sex steroids) does not occur in hyperprolactinemia.

63. (d) 2, 3 and 4

Key management strategies for moderate to severe premenstrual syndrome (PMS) or PMDD include combined oral contraceptive pills, which stabilize hormonal fluctuations, and diuretics to relieve fluid retention. In extremely refractory cases, surgical management (oophorectomy ± hysterectomy) can definitively eliminate cyclical hormone changes, though it is rarely done unless all else fails. Niacin (vitamin B3) is not a recognized mainstay of PMS therapy. Vitamin B6 (pyridoxine), rather than B3, may provide some symptomatic relief.

64. (b) Anti-Mullerian hormone

Anti-Mullerian Hormone (AMH) reflects the remaining pool of ovarian follicles and is widely used as a reliable indicator of ovarian reserve. Levels of AMH correlate with antral follicle count and potential reproductive lifespan. By contrast, β-hCG is a marker of pregnancy, placental alkaline phosphatase is relevant to placental function, and day-3 serum estradiol levels can give some information about ovarian function but are less specific than AMH.

65. (c) Polycystic ovarian syndrome

PALM-COEIN is a FIGO system classifying abnormal uterine bleeding. "PALM" (Polyp, Adenomyosis, Leiomyoma, Malignancy/hyperplasia) are structural causes; "COEIN" (Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, Not yet classified) are non-structural causes. Polycystic ovarian syndrome (PCOS) typically features chronic anovulation or oligo-ovulation—hence an ovulatory dysfunction cause of abnormal uterine bleeding. Adenomyosis is a "PALM" entity, PID is an infection-related pathology, and ovarian cancer is a malignancy, also generally not classified strictly under 'O' for ovulatory dysfunction.

66. (b) 2, 3 and 4 only

Genital warts are typically multiple (not usually solitary) and are commonly caused by HPV 6 and 11—the low-risk types for malignancy. They are sexually transmitted and can involve the vulva, vagina, cervix, anus, or perineum. Since 1 states "It is usually single," that is incorrect; 2, 3, and 4 are correct.

67. (d) 2, 3 and 4

Endometrial carcinoma is strongly associated with excess estrogen stimulation (often "unopposed," not "persistent progesterone"), obesity, nulliparity, and anovulation. It is indeed more common in white populations, and HNPCC (Lynch) syndrome confers a significantly increased risk. The most frequent histological type is endometrioid adenocarcinoma. Therefore, statement 1 is incorrect (estrogen, rather than progesterone, is the main culprit); statements 2, 3, and 4 are correct.

68. (d) hymen

In the POP-Q system, points along the vaginal walls are measured relative to the hymen, which is designated as the zero reference line. Distances above or below this plane (in centimeters) determine the stage and site of prolapse. The ischial spines, perineal body, and mid-vagina are anatomical landmarks, but they are not the specific "zero" reference in POPQ.

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in TB deaths from 2015 levels (not 35%, which is the 2020 milestone). Hence 3 is incorrect, and 1, 2, and 4 are correct.

98. (d) Orchitis

Mumps—a paramyxovirus infection—classically causes parotid gland swelling. In post-pubertal males, orchitis (inflammation of the testes) is the most frequent and characteristic extra-salivary complication. It can present with testicular pain, swelling, and soZmetimes lead to testicular atrophy. Pancreatitis does occur but is less common. Polyarthritis and central nervous system complications (e.g., meningitis) can also happen, yet orchitis remains the standout extra-salivary manifestation in adults.

99. (a) Vitamin A

WHO recommends giving high-dose Vitamin A supplementation to children with measles—particularly severe measles or in regions with high mortality—to reduce complications and death. Measles depletes vitamin A stores, and deficiency exacerbates the illness, increasing the risk of blindness and mortality. Administering vitamin A (often over two days) has been shown to improve outcomes and is part of the standard management protocol.

100. (c) 3 → 2 → 1 → 4

Among these four items, soya bean (3) has the highest protein content (roughly 35–40 g per 100 g). Meat (2) follows with about 20–25 g protein per 100 g, depending on the cut. Cow milk (1) generally has around 3–4 g of protein per 100 g. Sugar (4) is practically devoid of protein. Hence the correct descending order is soya bean meat cow milk sugar.

101. (b) 2, 3 and 4

Age is a non-modifiable risk factor. In contrast, cigarette smoking, obesity, and sedentary lifestyle can be changed or managed through lifestyle modifications, medical interventions, and behavior change programs. These are all modifiable components known to reduce the likelihood of coronary artery disease if corrected. Hence items 2, 3, and 4 are the recognized modifiable factors here.

102. (d) neural tube defects

Serum alpha-fetoprotein (AFP) is produced by the fetal liver and yolk sac. Elevated levels of maternal AFP (especially in the second trimester) can signal open neural tube defects (e.g., spina bifida, anencephaly) or other fetal anomalies such as abdominal wall defects. Low AFP can be associated with chromosomal abnormalities (e.g., Down syndrome). It is not a standard screening test for hypothyroidism, muscular dystrophy, or PKU.

103. (c) 4 → 3 → 1 → 2

In a classical model, the family life cycle begins with:

1. Formation (4) when two individuals marry/start a household,
2. Extension (3) when children are born, expanding the family,
3. Contraction (1) when grown children depart, leaving fewer dependents at home,
4. Dissolution (2) when the family unit ends due to death of one or both spouses.

Hence the sequence is 4 (formation) → 3 (extension) → 1 (contraction) → 2 (dissolution).

104. (d) 1, 2, 3 and 4

ICDS provides six essential services through its network of Anganwadi Centres, targeting children under six years and pregnant/lactating women. These include:

1. Supplementary nutrition
2. Immunization (which covers pregnant women for TT),
3. Health check-ups (antenatal care),
4. Nutrition and health education
5. Pre-school nonformal education
6. Referral services

Hence all four listed services are indeed offered to pregnant women under ICDS.

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105. (d) 1, 2 and 4

The top causes of infant deaths in India include neonatal conditions, pneumonia (acute respiratory infections), congenital anomalies,

(4). However, it is untrue that "the uterus never ruptures" (3); neglecting a constriction ring in obstructed labor can indeed lead to rupture.

76. (c) Pelvic hematoma

A tense, tender, bluish or purple swelling in the vulvar or peri-vaginal region, appearing a few hours after delivery, is strongly indicative of a hematoma (often vulvar or paravaginal). The intense pain and possible rectal tenesmus can be due to increasing pressure from the expanding collection of blood. Tears (cervical or perineal) usually present with active bleeding, whereas uterine rupture is a catastrophic ante- or intrapartum event with acute collapse and hemorrhage, less likely 4 hours postpartum in a stable mother.

77. (d) 2, 3 and 4

When the umbilical cord prolapses, the critical goal is to prevent further cord compression. Measures include:

1. Knee-chest or Trendelenburg position (2), using gravity to relieve pressure;
2. Manual elevation (lifting) of the presenting part (4) to free the cord;
3. Emergency cesarean (3) is typically indicated if vaginal delivery is not immediately feasible.

"Bladder emptying" (1) is not usually the key step; sometimes, in fact, a filled bladder technique is used to help dislodge the presenting part. Therefore 2, 3, and 4 are the main accepted measures.

78. (a) 1, 2 and 3

The plane of least pelvic dimensions typically corresponds to the level of the ischial spines. This is where the pudendal nerve can be blocked (landmark 1), and it's also the common site for deep transverse arrest (2). Internal rotation of the fetal head generally occurs as it navigates the midpelvis and approaches the pelvic floor (3). Statement 4 about marking the "backward curve" is not typically described as part of the plane of least pelvic diameter.

79. (b) Radical hysterectomy

Radical hysterectomy (Wertheim's operation) involves extensive dissection around the uterus, cervix, and upper vagina, including the uterosacral and cardinal ligaments. This can damage the pelvic splanchnic or paracervical nerve plexus, resulting in bladder dysfunction (atony or urinary retention) and sometimes bowel motility issues. A simple hysterectomy or vaginal hysterectomy are less likely to remove these supportive tissues and nerve plexuses extensively. Myomectomy typically addresses fibroids and spares the parametrium.

80. (a) 1, 2 and 4

Several techniques exist to assess tubal patency in evaluating female infertility.

1. Hysterosalpingogram (HSG) uses a radio-opaque dye and X-rays,
2. Sonosalpingogram involves transvaginal ultrasound with fluid or contrast,
3. Laparoscopic chromotubation (methylene blue dye) provides a direct view of spill through the fimbrial end.

CT scan is not a routine tool for testing tubal patency. Hence items 1, 2, and 4 are correct.

81. (b) 1·0 mg/litre

Most public health guidelines suggest maintaining a free residual chlorine level of about 1 mg/L (1 ppm) in swimming pools to inactivate common bacteria and viruses. Levels below 0.5 mg/L are typically considered inadequate, whereas going much above 2 mg/L can cause irritation to swimmers without significantly greater protection. Thus, 1 mg/L is commonly cited as the optimum for "adequate disinfection" while balancing swimmer comfort.

82. (d) 1, 2 and 3

Screening guidelines for type 2 diabetes typically recommend testing individuals with classic risk factors, such as:

1. Age over 40 (or 45) years,
2. A history of gestational diabetes or macrosomic baby (>4 kg),
3. A family history of diabetes (first-degree relative).

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All three of the listed groups are indeed considered high-risk and thus recommended for screening.

83. (d) 1·2

According to Indian Council of Medical Research (ICMR) / National Institute of Nutrition guidelines, the RDA of thiamine for an adult Indian man engaged in moderate physical activity is approximately 1.2 mg/day. Requirements increase slightly with higher energy expenditure and in certain physiological states. Lower or higher values (1.0, 1.4, or 1.8 mg/day) may be recommended in other contexts or intensities, but 1.2 mg is the accepted RDA for this moderate-work reference group.

84. (d) 40 mg

Miltefosine dosing for visceral leishmaniasis (kala-azar) in children is approximately 2.5 mg/kg/day for 28 days. For a 15 kg child, that is 37.5 mg/day, typically rounded up to 40 mg. This regimen ensures effective parasite clearance and is well-established under national guidelines for kala-azar. Lower doses (10–30 mg) would be insufficient for optimal therapy, whereas 40 mg/day approximates the recommended pediatric dose based on body weight.

85. (c) serum ferritin value

Serum ferritin reflects body iron stores and is the most sensitive single indicator for diagnosing iron deficiency at an early stage. Hemoglobin levels alone may remain normal until iron depletion becomes more severe. Serum iron and transferrin saturation can fluctuate with diet or diurnal variations. Ferritin, however, typically falls early in iron deficiency. Very low ferritin levels are highly specific for depleted iron stores, although ferritin can be elevated by inflammatory conditions.

86. (b) 1 and 4

Classic screening criteria (Wilson and Jungner) include:

1. Adequate understanding of the disease's natural history,
2. An effective treatment should exist (so "no treatment" is incorrect),
3. A detectable latent or asymptomatic stage is desirable (so 3 is the opposite of what we want),
4. A suitable test that identifies pre-symptomatic cases (4).

Hence 1 and 4 are correct. If no effective treatment exists or no latent stage is present, screening is generally not warranted.

87. (c) 2 and 3

According to India's immunization schedule, fractional IPV (fIPV) doses are given at 6 weeks and 14 weeks of age. Earlier polio doses such as OPV 0 can be given at birth, but the fractional inactivated polio vaccine specifically occurs at the 6- and 14-week visits. At 9 months, children receive measles (or measles-rubella) vaccine, not IPV.

88. (d) 1, 2 and 3

Under the 2016 Biomedical Waste Management Rules in India, the Red category is designated for contaminated plastics that can be disinfected and shredded. Items like IV tubes, catheters, and gloves (all visibly soiled with body fluids) are disposed of in red bags for appropriate treatment. Blood bags, however, typically fall under the Yellow category (due to potential residual blood). Therefore, items 1 (IV tubes), 2 (catheters), and 3 (gloves) go to the red bag, whereas blood bags are segregated separately in yellow.

89. (c) 1, 3 and 4

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The UN's Human Development Index (HDI) is built from three core dimensions:

1. Health: measured by life expectancy at birth,
2. Education: measured by mean years of schooling and expected years of schooling,
3. Standard of living: measured by Gross National Income (GNI) per capita.

Infant mortality rate is not part of the formal HDI formula. Therefore, 1 (life expectancy), 3 (GNI per capita), and 4 (mean years of schooling) are correct.

90. (c) 1, 2 and 3 only

Under the Open Vial Policy (2015) in India, certain liquid vaccines (DPT, TT, Hepatitis B, OPV, and Pentavalent) may be reused in subsequent sessions (up to four weeks) if the vaccine vial monitor has not reached its discard point, strict aseptic technique is followed, and vials are never submerged in ice/water (risk of contamination). However, BCG, Measles, JE (lyophilized) must be discarded within a few hours of reconstitution and cannot be saved for the next session, making statement 4 false.

91. (b) 1 and 3 only

Haemophilia (commonly A or B) is an X-linked recessive hereditary disorder characterized by deficiency of clotting factors (VIII or IX). Males usually manifest severe bleeding tendencies, while female carriers may occasionally have low factor levels and mild symptoms due to lyonization (X-inactivation). There is no recognized higher incidence among Asians in particular; it is distributed worldwide. Hence statements 1 and 3 are correct, but 2 is not.

92. (c) Give one dose of TT and one dose of ATS within 6 hours of birth

If the mother was not adequately vaccinated with TT in pregnancy, the newborn is at high risk for neonatal tetanus. Ideal practice is to administer tetanus immunoglobulin or ATS to the baby as soon as possible—preferably within six hours—to neutralize any potential toxin. A single dose of TT to the newborn can help stimulate active immunity, though immediate protection mostly comes from the antitoxin. Delaying more than 72 hours would miss the critical prophylactic window.

93. (b) 3 years

Dukoral®, an oral cholera vaccine containing killed whole cells (wc) and recombinant B-subunit (rBS), generally has a manufacturer-stated shelf life of up to 3 years when kept at the recommended cold-chain range (2 °C to 8 °C). Although some inactivated oral vaccines may remain stable for shorter or longer times, labeling for Dukoral specifically indicates 36 months from date of manufacture under proper refrigeration.

94. (a) 2, 3 and 4

Incidence rate is a measure of the occurrence of new cases of a disease over a specified time (usually per 1,000 or 100,000 person-years) in a defined population at risk. It must explicitly include the time dimension in the denominator. "Sum total of new and old cases" (prevalence) is incorrect for incidence. Thus, 2, 3, and 4 are true statements for incidence rate.

95. (c) 5 years

To estimate the mean age, take the midpoint of each age group and multiply by the number of patients:

1. 0–4 group: midpoint 2 years → 22 patients × 2 = 44
2. 5–9 group: midpoint 7 years → 12 patients × 7 = 84
3. 10–14 group: midpoint 12 years → 6 patients × 12 = 72

Summation = 44 + 84 + 72 = 200. Divide by total patients 40 = 5 years.

96. (b) The United Nations Children's Fund (UNICEF)

UNICEF (United Nations Children's Fund) is well known for its country program approach, partnering directly with national governments to design multi-year Country Programmes that address child survival, maternal health, nutrition, and education. These structured collaborations are tailored to each country's needs and emphasize capacity building, community engagement, and local solutions. While other agencies (e.g., UNDP, UNFPA, USAID) also collaborate at the country level, UNICEF is especially noted for its formal "Country Programme" methodology in maternal and child health.

97. (c) 1, 2 and 4

The WHO "End TB Strategy" is not limited to patient care but emphasizes TB prevention (statement 1), with the primary global targets to be met by 2035 (statement 2). It also identifies critical barriers that must be tackled, including financing and health-system gaps (statement 4). However, the 2025 milestone is a 75% reduction

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it does not invariably "always" correct the blood abnormalities. Therefore, statement 4 is inaccurate.

40. (a) renal pelvis

Anderson-Hynes pyeloplasty is the classic surgical procedure for relieving obstruction at the pelvi-ureteric junction (PUJ). It remodels the renal pelvis and reattaches the ureter to ensure a wide, nonobstructed outflow tract for urine. It is often performed for congenital PUJ obstruction in children, though it can be indicated in adults with secondary obstruction. This operation specifically addresses the junction of the renal pelvis and proximal ureter, not the bladder, distal ureter, or any other genitourinary structure.

41. (c) 40–50 mmHg

During the active first stage of labor, the strength (amplitude) of uterine contractions typically rises to around 40–50 mmHg. These contractions help dilate the cervix and position the fetus for delivery. Early labor may begin with pressures of around 20–30 mmHg, but the robust contractions that characterize active labor often reach 40–50 mmHg. Pressures as high as 100–120 mmHg are more extreme and often correlate with very strong second-stage pushes.

42. (a) 1, 2 and 3

The Pap (Papanicolaou) smear is the time-honored screening method for detecting precancerous cervical lesions. HPV DNA testing is also recommended (especially in conjunction with Pap) to identify high-risk human papillomavirus strains. Visual inspection with acetic acid (VIA) is widely used in low-resource settings for cervical screening. Endocervical curettage, however, is more of a diagnostic or follow-up procedure when Pap findings are abnormal, rather than a routine screening tool.

43. (a) 1, 2 and 3

Heavy menstrual bleeding (menorrhagia) can occur in patients with coagulation disorders (e.g., von Willebrand disease), where defective clotting causes excessive uterine bleeding. Uterine fibroids (especially submucosal types) are known to produce heavier and often prolonged menses. Adenomyosis (endometrial glands within the myometrium) commonly manifests as dysmenorrhea and menorrhagia. In contrast, prolactinoma typically causes amenorrhea or oligomenorrhea because elevated prolactin levels disturb the normal hypothalamic-pituitary-gonadal axis, leading to reduced gonadotropins and decreased menstrual flow.

44. (d) 1, 2 and 3

CA-125 is most famously elevated in epithelial ovarian cancer and is used as a tumor marker in its diagnosis and follow-up. However, elevated CA-125 can also be seen in several benign gynecological conditions, particularly endometriosis (often mildly elevated) and pelvic inflammatory disease (inflammatory processes in the pelvis can cause moderate rises). Hence, although not specific, it can be raised in all three conditions listed.

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45. (a) 1, 2 and 3

The major ligamentous supports of the uterus include the pubocervical, cardinal (transverse cervical), and uterosacral ligaments. These help maintain the normal anteverted and anteflexed position of the uterus, preventing prolapse. The ovarian ligament, on the other hand, connects the ovary to the uterine cornu and does not provide direct support to the uterus itself. Thus, 1 (pubocervical), 2 (cardinal), and 3 (uterosacral) are the key supports.

46. (d) calendar rhythm method

The Pearl Index represents the number of unintended pregnancies per 100 woman-years of use, i.e. how often a method fails. Of the options given, the calendar (rhythm) method is the least reliable because it depends on strict user compliance and the variability of ovulation timing. Hence, it has the highest Pearl Index (worst failure rate). Combined oral contraceptives, IUDs, and barrier methods generally have lower Pearl Indices (better efficacy) than natural methods such as the calendar method.

and diarrheal diseases, among others. While childhood cancers do occur, they are relatively uncommon as a major contributor to infant mortality. Therefore, 1 (ARI/pneumonia), 2 (birth defects), and 4 (diarrhea) are recognized primary contributors.

106. (c) euthenics

Euthenics is the science of improving human well-being by improving the environment—providing better nutrition, hygiene, housing, and education—so that individuals can develop optimally within their existing genetic potential. Eugenics focuses on altering the genetic makeup of populations, acculturation pertains to cultural adaptation, and euphenics refers to medical/biological interventions that change phenotypic expression of genes. Thus, "adapting the environment to existing genes" aligns with euthenics.

107. (d) 90%

First, calculate the incidence among smokers = 70/7000 = 1.0%, incidence among non-smokers = 3/3000 = 0.1%.

Attributable risk percent (AR%) = $\frac{I_e - I_{ne}}{I_e} \times 100$

Thus, 90% of lung cancer in the exposed (smokers) can be attributed to smoking.

108. (b) 6

A cause-specific death rate is commonly calculated as:

Cause-Specific Death Rate = $\left(\frac{\text{Number of deaths from the cause in 1 year}}{\text{Mid year population}}\right) \times 1000$

For example, if there are 1500 deaths from tuberculosis (TB) in a year within a mid-year population of 250,000, the calculation would be:

$= \frac{1500}{250000} \times 1000$

= 6 deaths per 1000 population per year

Therefore, the specific death rate for tuberculosis is 6 per thousand.

109. (c) 1, 3 and 4

Unusual but recognized complications of BCG vaccination include suppurative lymphadenitis at the draining lymph node, osteitis (particularly in certain populations), and disseminated BCG infection in severely immunocompromised patients. Guillain-Barré syndrome is not classically associated with BCG (it is more commonly linked to certain infections or occasionally with other vaccines).

110. (d) Measles vaccine

Measles and Yellow Fever vaccines are both live attenuated viral vaccines. Administering them very close together (within about 4 weeks) can diminish the immune response to one or both vaccines. Hence standard guidelines recommend spacing these two live vaccines by at least 28 days if not given simultaneously. Typhoid and cholera (oral or injectable) or tetanus toxoid do not generally cause the same significant interference with the Yellow Fever vaccine.

111. (d) 1, 3 and 4

The Vandemataram Scheme is a voluntary public-private partnership whereby private obstetricians (maternity homes, nursing homes, MBBS doctors) enroll to provide safe motherhood services (statement 1). TT injections are typically supplied free by government / district health authorities to the empaneled providers (statement 3). One requirement for enrollment is that participating facilities must be able to provide comprehensive obstetric care, including caesarean-section capability (statement 4). However, the scheme does not require doctors to purchase and distribute iron–folic acid tablets at their own expense, making statement 2 incorrect.

112. (d) 1, 2, 3 and 4

To render an unlined "katcha" well sanitary and reduce contamination, multiple steps are recommended: deepening the bottom (1) if needed for cleaner water strata, filling/lining with clay and sand layers (2) to filter out contaminants, installing a hand pump with an appropriate screen (3) to minimize direct bucket contamination, and finally providing a raised platform and drainage (4) so surface runoff does not directly enter the well. All four measures together improve the well's sanitary status.

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113. (a) Membrane filtration technique is much quicker and results can be obtained within 20 hours, while multiple tube method is much longer.

Membrane filtration allows one to filter a measured volume of water, place the filter on selective media, and directly count coliform colonies within about 18–24 hours. By contrast, the standard "multiple-tube" fermentation (MPN) method can require 48 hours or more and is more cumbersome. Cost, availability, and required technical skill can vary, but the main recognized advantage is the quicker turnaround and ability to obtain direct colony counts with membrane filtration.

114. (b) Threonine

Among these choices, threonine is a true essential amino acid for humans. The body cannot synthesize it and so it must come from dietary sources. Arginine is considered semi-essential (especially in children), while serine and proline are nonessential because the body can produce them from other intermediates. The standard list of essential amino acids includes leucine, isoleucine, valine, phenylalanine, tryptophan, methionine, lysine, histidine, and threonine.

115. (d) 1, 2, 3 and 4

Under India's National Framework for Malaria Elimination (2016–2030), the ultimate goal is zero indigenous cases nationwide by 2030 (statements 1 and 4). Interim milestones include: by 2022, zero malaria in those states previously categorized as lower-endemic (Categories 1 & 2) (statement 2), and by 2026, bringing the annual incidence to <1 case/1000 across all states/UTs (statement 3). Hence all four statements align with the official targets outlined in the framework.

116. (c) 1, 2 and 3 only

Important drivers of neonatal mortality include low birth weight (1) and prematurity (2). Maternal socioeconomic factors, such as education (3), also significantly influence neonatal outcomes (e.g., better-educated mothers often have improved antenatal care and postpartum practices). However, teenage mothers (especially 15–16 years old) are at higher risk for complications, and neonatal mortality does not drop with maternal age in early teens, making statement 4 incorrect.

117. (c) 42

Conventionally, a maternal death is defined as occurring up to 42 days postpartum if related to pregnancy (direct or indirect causes). Deaths that occur after 42 days but within one year of pregnancy termination, still from obstetric causes, are classified by WHO as "late maternal deaths." Thus, X = 42.

118. (c) 3

Apgar scoring components each yield 0–2 points:

1. Heart Rate = 92 =1 point (HR < 100)
2. Respiratory effort = slow, irregular =1 point
3. Muscle tone = flaccid =0 points
4. Reflex irritability = no response =0 points
5. Colour = body pink, extremities blue =1 point

Adding 1 + 1 + 0 + 0 + 1 = 3.

119. (b) 1 and 3

1. Anthracosis is caused by coal dust (correct 1).
2. Byssinosis results from exposure to cotton dust (correct 3).
3. Bagassosis is from moldy sugarcane bagasse (not silica dust).
4. Siderosis comes from iron oxide dust, not asbestos. Asbestos causes asbestosis, not siderosis.

Thus the correct pairings are 1 (Anthracosis–Coal dust) and 3 (Byssinosis–Cotton dust).

120. (d) 4 only

NFHS typically divides the population into five wealth quintiles (lowest, second, middle, fourth, highest), not "quartiles," so statement 1 is incorrect. Presenting TFR data as a "pie chart" is generally not appropriate for these continuous rates, so 2 is misleading. Also, the NFHS Wealth Index is computed from a composite measure of household assets, not strictly from "per capita

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income," so 3 is incorrect. However, 4 is clearly seen: with each higher wealth bracket, TFR decreases.

END

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31. A patient with suspected head injury is brought to the emergency following road traffic accident. At the time of examination, patient is conscious with GCS 14/15 and stable vitals. There is bleeding from right ear and CSF leak from nose. Bruising is present behind the right ear. The most probable clinical diagnosis in this patient is
(a) Extradural haematoma
(b) Fracture of the base of skull
(c) Cerebral concussion
(d) Traumatic subarachnoid haemorrhage

32. The commonest organism causing Suppurative Otitis Media is
(a) Streptococcus pneumonia
(b) Staphylococcus aureus
(c) Acinetobacter Spp
(d) Escherichia coli

33. A patient of road traffic accident presents to the emergency with increasing restlessness and difficulty in breathing. The respiratory rate is 26 breaths/minute; there are distended neck veins; trachea is deviated to the right side with hyper-resonant note and absence of breath sounds on the left side. Which of the following statements are correct?
1. The most probable clinical diagnosis is left tension pneumothorax
2. Immediate chest decompression using wide bore cannula in left second intercostal space should be done
3. Immediate chest X-ray should be done to confirm the clinical diagnosis
4. Definitive chest tube insertion in left fifth intercostal space should be done

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

34. Positron Emission Tomography (PET) used in Preoperative staging of Gastro Oesophageal tumours is to detect
(a) Distant metastatic disease
(b) Extension into stomach
(c) Local spread
(d) Lymph node status

35. Which of the following are correct about ectopic ureters?
1. They are more common in males
2. They drain the upper pole of kidney
3. They are associated with duplex ureter
4. They may cause incontinence

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

36. Which one of the following is a Nephrotoxic anaesthetic agent?
(a) Methoxyflurane
(b) Isoflurane
(c) Halothane
(d) Nitrous oxide

37. A comatose patient after sustaining severe head injury has been admitted in neurosurgical ICU. Which of the following parameters should ideally be maintained in this patient?
1. $pCO_2 = 4{\cdot}5 - 5{\cdot}0$ kPa (33–38 mm Hg)
2. MAP = 80 – 90 mm of Hg
3. pO_2 11 kPa (80 mm Hg)
4. $Na^+ < 130$ meq/L

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

38. Untidy wounds are characterised by which of the following?
1. Crushed or avulsed tissues
2. Contamination wound
3. Devitalised tissue
4. No loss of tissue

Select the correct answer using the code given below:
(a) 1, 2 and 3

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9. An infant presented in the surgical OPD with complaints of a unilateral swelling in the neck. The swelling was soft, cystic, partially compressible and brilliantly transilluminant. The most probable diagnosis is
(a) Branchial fistula
(b) Branchial cyst
(c) Cystic Hygroma
(d) Thyroglossal cyst

10. Serum thyroglobulin level is an important tumor marker for
(a) Medullary carcinoma thyroid
(b) Papillary carcinoma thyroid
(c) Anaplastic carcinoma thyroid
(d) Thyroid lymphoma

11. A 43 year old woman presented with serous discharge from a single duct of the nipple of her right breast which was sent for evaluation. She is unlikely to be suffering from
(a) Fibrocystic disease
(b) Intraductal Papilloma
(c) Duct Ectasia
(d) Carcinoma

12. An eight month old male child is brought to the emergency with recurrent episodes of screaming and drawing up of legs. The child appears to be listless in between the attacks. Local examination of abdomen reveals feeling of emptiness in the right iliac fossa and blood stained mucus is found on the finger on per rectal examination. The most probable clinical diagnosis in this child is
(a) Caecal volvulus
(b) Acute intussusception
(c) Rectal prolapse
(d) Midgut volvulus

13. Which of the following statements regarding Ogilvie's syndrome are correct ?
1. It presents as acute large bowel mechanical obstruction
2. Marked caecal dilatation is a common feature on X-ray abdomen
3. Caecal perforation is a well recognized complication of this condition
4. Intravenous Neostigmine is used for the treatment of this condition

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

14. Which of the following statements regarding Carcinoid tumour are correct ?
1. Terminal ileum is the most common site for these tumours in the gastrointestinal tract
2. These tumors arise from Kulchitsky cells situated at the base of intestinal crypts
3. 5-Hydroxytryptamine is the most common vasoactive peptide produced by these tumors
4. Serum chromogranin A is a useful marker for disease recurrence

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

15. In familial adenomatous polyposis, which of the following all are true ?
1. Presence of >100 colorectal polyps
2. Positive family history
3. Autosomal Recessive inheritance
4. Genetic mutation on Chromosome 5

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

16. A 50 year old male patient presents to the emergency with sudden onset of upper abdominal pain, nausea, vomiting and haematemesis. On examination, PR = 106/min, BP = 100/70 mm Hg and pallor is present. CECT abdomen reveals a large exophytic tumor of size 13 × 8 cm at the fundus of the stomach.

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4. Best dating is possible with third trimester ultrasound scan

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1, 2, 3 and 4
(c) 3 and 4 only
(d) 1, 2 and 3 only

49. During pregnancy iron supplementation is needed for
(a) all pregnant mothers from 16 weeks onwards
(b) only those pregnant mothers who have Hb < 10 gm%
(c) only those pregnant mothers who are not eating green vegetables
(d) all pregnant mothers since 6 weeks of pregnancy

50. The clinical feature of physiological edema in pregnancy
(a) is present on both lower limbs and abdomen
(b) is associated with cardiac or renal pathology
(c) is usually of moderate or severe grade
(d) disappears or markedly reduced on rest

51. The normal rate of dilatation of the cervix in a primigravida in the active phase of labour is
(a) 0·25 cm/hour
(b) 0·5 cm/hour
(c) 0·75 cm/hour
(d) 1 cm/hour

52. In the mechanism of normal labour the engaging transverse diameter is
(a) Suboccipitobregmatic (9·5 cm)
(b) Biparietal diameter (9·5 cm)
(c) Bimastoid diameter (7·5 cm)
(d) Suboccipitofrontal diameter (10 cm)

53. Compared to breast milk, colostrum has
(a) higher fat content
(b) higher carbohydrate content
(c) higher protein content
(d) lower water content

54. In non lactating mothers, after delivery, ovulation
(a) may occur as early as 2 weeks
(b) may occur as early as 4 weeks
(c) may occur as early as 6 weeks
(d) is unusual before 6 weeks

55. Which of the following are the pre-requisites of outlet forceps delivery?
1. Bladder should be empty
2. Membranes should be intact
3. Cervix should be fully dilated
4. Fetal skull has reached level of pelvic floor

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

56. The vaginal pH in childbearing age normally ranges between
(a) 2·5 – 3·5
(b) 1 – 2
(c) 4 – 5·5
(d) 7 – 8

57. The Gartner's duct cyst is usually located in
(a) Anterolateral wall of vagina
(b) Posterolateral wall of vagina
(c) Posterior wall of vagina
(d) Labia minora

58. Endometrial sampling for diagnosis of ovulation is done on which day of menstrual cycle?
(a) 8th – 10th day
(b) 12th day
(c) 14th day
(d) 21st to 23rd day

59. Primary Dysmenorrhea can be treated by which of the following?
1. Antiprostaglandin
2. Cyclic combined estrogen and progesterone preparations

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(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

24. Which of the following are probable sites for Ectopic pancreas ?
1. Submucosa of the stomach and duodenum
2. Liver
3. Small bowel mesentery
4. Splenic hilum

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

25. Which one of the following statements regarding Cantlie's line is correct ?
(a) Runs between gall bladder fossa and right hepatic vein
(b) Runs between gall bladder fossa and right branch of portal vein
(c) Runs between gall bladder fossa and middle hepatic vein
(d) Runs between gall bladder fossa and left branch of portal vein

26. Which of the following are indications of splenectomy ?
1. Pseudomyxoma peritonei
2. Trauma
3. Idiopathic thrombocytopenic purpura (ITP)
4. Hypersplenism

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

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27. A 45 year old female patient presents with a painless firm abdominal swelling of size 10 × 8 cm near the umbilicus. The swelling can be moved freely in a plane at right angle to the line of attachment of the mesentery. The most probable clinical diagnosis in this patient is
(a) Dermoid cyst
(b) Ovarian cyst
(c) Mesenteric cyst
(d) Hydatid cyst

28. A 45 year old male patient, a known case of left inguinal hernia presents to the emergency with an acute onset of pain abdomen associated with nausea, vomiting and abdominal distension. His pulse rate is 102/min, BP is 100/70 mm Hg and respiratory rate is 24/min. On local examination, the skin overlying the swelling is tense and erythematous. There is localized tenderness over the swelling; the swelling is irreducible with absence of cough impulse. The most probable clinical diagnosis in this patient is
(a) Obstructed hernia
(b) Strangulated hernia
(c) Incarcerated hernia
(d) Irreducible hernia

29. Mayo's repair is done for
(a) Inguinal hernia
(b) Femoral hernia
(c) Umbilical hernia
(d) Incisional hernia

30. In Pringle Manoeuvre, clamping includes which of the following?
1. Common Bile Duct
2. Hepatic artery
3. Portal vein
4. Inferior Vena Cava

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

On upper GI endoscopy, the mucosa overlying the tumor is intact. The staining for CD117 in the upper GI endoscopic biopsy is positive. The most probable clinical diagnosis in this patient is
(a) Gastric lymphoma
(b) Gastrointestinal stromal tumor
(c) Carcinoid tumor
(d) Carcinoma stomach

17. Which of the following is NOT a classical symptom of acute appendicitis ?
(a) Anorexia
(b) Periumbilical colic
(c) Constipation
(d) Nausea

18. Among the extra intestinal manifestations of Crohn's disease which one of the following is related to the disease activity ?
(a) Eye complications (Iritis/Uveitis)
(b) Renal calculi
(c) Primary sclerosing cholangitis
(d) Chronic active hepatitis

19. The Model for End Stage Liver Disease (MELD) score includes which of the following variables ?
1. Serum bilirubin
2. Serum albumin
3. Serum creatinine
4. International Normalised Ratio (INR)
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

20. Which of the following statements with regard to Enteric perforation are correct ?
1. Salmonella typhi is the causative organism for Enteric fever
2. Enteric perforation characteristically occurs during third week of illness
3. Typhoid ulcers are placed transversely to the long axis of the gut
4. Terminal ileum is the most common site for enteric perforation
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

21. A 35 year old male patient with enteric fever presents to the emergency with sudden onset of generalised abdominal pain, abdominal distension, nausea, vomiting and constipation for last 48 hours. On examination, patient is dehydrated with PR = 110/min and BP = 100/60 mm Hg. There is generalised tenderness, rebound tenderness present and board like rigidity on per-abdomen examination. The most likely complication of enteric fever in this patient is
(a) Small bowel enteritis
(b) Small bowel perforation
(c) Small bowel obstruction
(d) Cholecystitis

22. Which of the following are options for management of a pancreatic pseudocyst ?
1. Pancreaticoduodenectomy
2. Cystogastrostomy
3. Percutaneous drainage
4. Endoscopic drainage
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

23. Which of the following statements regarding hepatic adenomas are correct ?
1. They are almost exclusively seen in females aged 25-50 years
2. They are associated with use of oral contraceptive pills
3. They do not have any malignant potential
4. Majority are detected incidentally on imaging
Select the correct answer using the code given below:
(a) 1, 2 and 3

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(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

39. Which one of the following statements regarding the composition of common crystalloid solutions is correct?
(a) Normal saline contains 100 meq/L of Na
(b) Hartmann's solution contains 111 meq/L of Cl
(c) Normal saline contains 130 meq/L of Cl
(d) Hartmann's solution contains 111 meq/L of Na

40. Perioperative benefit from transfusion is with a haemoglobin level of
(a) < 6 gm/dl
(b) 6-8 gm/dl
(c) 8-10 gm/dl
(d) 10 gm/dl

41. Ideal weight gain during pregnancy for a woman with normal BMI should be
(a) 7 kg
(b) 11-16 kg
(c) 18 kg
(d) More than 18 kg

42. Blood volume increases during pregnancy above nonpregnant level at 30-34 weeks
(a) by 10-20 per cent
(b) by 25-30 per cent
(c) by 40-50 per cent
(d) Blood volume does not increase at all

43. Which of the following are contraindications to external cephalic version in antenatal management of breech presentation?
1. Antepartum haemorrhage
2. Multiple pregnancy
3. Reactive Non Stress Test
4. Severe oligohydramnios

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

44. Antepartum haemorrhage is defined as bleeding from genital tract
(a) Before 20 weeks of pregnancy
(b) Before 24 weeks of pregnancy
(c) After 28 weeks of pregnancy
(d) After 34 weeks of pregnancy

45. Which one of the following is NOT a risk factor for pre-eclampsia?
(a) Primigravida
(b) Obesity
(c) Pre-existing vascular disease
(d) Placenta previa

46. What are Spiegelberg's criteria for diagnosis of ovarian pregnancy?
1. Tube on the affected side must be intact
2. Gestational sac must be in the position of ovary
3. Gestational sac is connected to uterus by ovarian ligament
4. Ovarian tissue must be detected on the wall on histological examination

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 2, 3 and 4
(d) 1 and 4 only

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47. Which one of the following statements regarding fetal well being is NOT correct?
(a) Daily fetal movement count is a simple reliable method of fetal well being
(b) Modified Biophysical profile includes Non-stress test and fetal breathing
(c) Mothers perceive 88% of fetal movements
(d) Healthy fetus should have minimum of 10 movements in 12 hours period

48. Which of the following statements are correct with respect to antenatal USG examination?
1. It helps in detecting gross fetal anomalies
2. It helps in identifying multiple pregnancies
3. It helps in identifying viable pregnancy

QUESTION PAPER 2021

1. Which of the following are types of wound healing ?
   1. Primary Intention
   2. Secondary Intention
   3. Tertiary Intention
   4. Quaternary Intention

   Select the correct answer using the code given below:
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 1, 3 and 4
   (d) 2, 3 and 4

2. A 50 year old female presents to the emergency with pain, swelling and redness over the left foot following a trivial trauma 3 days back. On examination, the swelling over the left foot is poorly localised; local tenderness and erythema are present and crepitus is absent; distal pulsations are palpable. The most likely clinical diagnosis is
   (a) Compartment syndrome
   (b) Cellulitis
   (c) Abscess
   (d) Fasciitis

3. Which one of the following is NOT associated with BRCA1/BRCA2 genes ?
   (a) Breast cancer
   (b) Ovarian cancer
   (c) Prostate cancer
   (d) Liver cancer

4. The malignancy associated with Stewart-treves syndrome is
   (a) Lymphangiosarcoma
   (b) Malignant melanoma
   (c) Basal cell carcinoma
   (d) Liposarcoma

5. A 60 year old lady underwent total abdominal hysterectomy. On the 3rd post operative day she suddenly became breathless while returning from washroom. Her blood pressure recorded was 80/50 mm of Hg. The most probable diagnosis is
   (a) Postural hypotension
   (b) Secondary haemorrhage
   (c) Thromboembolism
   (d) Transient ischaemic attack

6. A 52 year old female underwent MRM (Modified Radical Mastectomy). After few years, she developed lymphedema of the ipsilateral arm. Which of the following malignancy can develop in her arm ?
   (a) Lymphangiosarcoma
   (b) Malignant Melanoma
   (c) Lymphoma
   (d) Malignant fibrous histiocytoma

7. A gentleman of 60 years presented with a brawny swelling of the sub-mandibular region with inflammatory oedema of mouth and putrid halitosis. Most likely he is suffering from
   (a) Tubercular adenitis
   (b) Chronic lymphadenitis
   (c) Acute lymphadenitis
   (d) Ludwig's angina

8. A 25 year old female patient with previous history of neck irradiation presents with thyroid swelling for last 6 months. The patient is clinically euthyroid. On examination, the right lobe of thyroid gland is enlarged with presence of ipsilateral cervical lymphadenopathy. The most probable clinical diagnosis in this patient is
   (a) Medullary carcinoma thyroid
   (b) Papillary carcinoma thyroid
   (c) Lymphoma
   (d) Follicular carcinoma thyroid

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3. Pre-sacral neurectomy
4. Uterine curettage

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

60. Which one of the following is correct regarding obesity and infertility?
(a) It is associated with hypogonadotropic hypogonadism
(b) It is associated with hypergonadotropic hypergonadism
(c) There is no change in HPO axis
(d) It is always associated with endometrial atrophy

61. Which one of the following is an abnormal parameter in accordance with WHO Serum Analysis Criteria (Normal reference value)?
(a) Volume $\geq$ 2 ml
(b) Viscosity 4
(c) Progressive forward motility of sperms 50%
(d) Normal morphology of sperms 14%

62. Which of the following are causes of GnRH dependent precocious puberty ?
1. Constitutional
2. Tubercular Encephalitis
3. McCune-Albright syndrome
4. Primary hypothyroidism

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

63. Which one of the following is the most important haematological condition to be ruled out while investigating a case of puberty menorrhagia ?
(a) Anaemia
(b) Coagulation disorder
(c) G-6PD deficiency
(d) Leukemia

64. A couple presented to OPD with complaint of inability to conceive for last 3 years. Husband was advised semen analysis. What is the WHO criterion for minimum sperm count per ml in normal semen ?
(a) 10 million
(b) 15 million
(c) 30 million
(d) 40 million

65. Which of the following are risk factors for developing pelvic inflammatory disease in females ?
1. Use of oral contraception pills
2. Multiple sexual partners
3. Lower socioeconomic status
4. Genetic predisposition

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

66. A 65 year old postmenopausal lady presents in Gynaecology OPD with abdominal distension and weight loss. On investigation she was diagnosed to have an ovarian tumour. The most common type of ovarian tumour in this woman would be
(a) Germ cell tumor
(b) Sex cord tumor
(c) Epithelial tumor
(d) Trophoblastic tumor

67. Which of the following are the characteristic features of Meigs' syndrome in a female ?
1. Right sided hydrothorax
2. Ascites
3. Genital warts
4. Fibroma ovary

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 2, 3 and 4

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3. LNG-20 (Mirena)
4. Copper-T-380 A

Select the correct answer using the code given below:
(a) 2 only
(b) 4 only
(c) 1, 2, 3 and 4
(d) 2 and 4 only

116. DANIDA, the international aid agency of Denmark, is known for its assistance to which one of the India's National Health Programmes?
(a) National AIDS Control Programme
(b) National Blindness Control Programme
(c) National Tuberculosis Control Programme
(d) National Deafness Control Programme

117. After attending a birthday party in a hostel around 50 students reported having loose stools, fever and few reported vomiting. This outbreak can be identified as what type of outbreak?
(a) Propagated only
(b) Common point source only
(c) Common source continuous
(d) Both propagated and common point source

118. Which of the following vaccines are given through the intramuscular route?
1. BCG vaccine
2. Hepatitis B vaccine
3. Pentavalent vaccine
4. Inactivated Polio vaccine

Select the correct answer using the code given below:
(a) 2, 3 and 4
(b) 1, 2 and 3
(c) 1, 2 and 4
(d) 1, 3 and 4

119. Covaxin is a/an
(a) Live attenuated vaccine
(b) Inactivated whole virus vaccine
(c) Protein subunit vaccine
(d) Nucleic acid vaccine

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120. Which of the following agencies are playing a key role in running of the 'COVAX' initiative against COVID-19?
1. GAVI, the Vaccine Alliance
2. World Health Organisation (WHO)
3. Ford Foundation
4. Coalition for Epidemic Preparedness Innovations (CEPI)

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 2, 3 and 4

END

(a) Both Statement-1 and Statement-2 are true and Statement-2 is the correct explanation for Statement-1
(b) Both Statement-1 and Statement-2 are true and Statement-2 is not the correct explanation for Statement-1
(c) Statement-1 is true but Statement-2 is false
(d) Statement-2 is true but Statement-1 is false

76. Which of the following are correct regarding failure rate of contraceptive methods ?
1. Depot medroxyprogesterone acetate 0 to 1 per HWY
2. Norplant 0·1 per HWY
3. LNG-IUS 0·02 per HWY
4. Levonorgestrel 3 per HWY

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4"

77. Consider the following in respect of Ormeloxifene:
1. It is a research product of Central Drug Research Institute, Lucknow
2. It is a steroidal compound
3. It is a potent antiestrogen with weak estrogenic properties
4. It does not inhibit ovulation

Which of the above are correct ?
(a) 1 and 3 only
(b) 1, 3 and 4
(c) 2, 3 and 4
(d) 1, 2 and 4

78. Steroidal contraceptives available in the basket of contraceptive choice from Ministry of Health & Family Welfare, Government of India are
(a) Monophasic
(b) Biphasic
(c) Triphasic
(d) Estrogen only pills

79. Which of the following are absolute contraindications of Combined Oral Contraceptive (COCs)?
1. Arterial or venous thrombosis history
2. Severe hypertension
3. Gestational trophoblastic neoplasia
4. Diabetes with vascular complications

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

80. After male sterilization, additional contraceptive protection is
(a) needed for 1 month
(b) needed for 1 to 2 months
(c) needed for 2 to 3 months
(d) not needed

81. The life expectancy at birth for a country A is 64 years. The minimum and maximum values of life expectancy are 20 years and 86 years respectively. As part of Human Development Index (HDI), what is the Life Expectancy Index for the country A ?
(a) 0·512
(b) 0·667
(c) 0·744
(d) 0·970

82. Which of the following indicators stand consolidated in Physical Quality of Life Index (PQLI)?
1. Infant mortality
2. Life expectancy at age one
3. Per capita income
4. Literacy

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 2, 3 and 4

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83. Consider the following staff :
1. Medical Officer
2. Pharmacist
3. Anaesthetist
4. Health Educator

Of them, who are routinely posted to a PHC ?
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 2, 3 and 4

84. Which one of the following management techniques helps in standardising the methods of performing jobs ?
(a) Systems Analysis
(b) Decision Making
(c) Work Sampling
(d) Personnel Management

85. STDs are transmitted by
(a) Direct contact
(b) Droplet infection
(c) Contact with soil
(d) Vector borne

86. Under the International Health Regulations which of the following diseases are notifiable by the National Health Authority to the World Health Organisation ?
1. Cholera
2. Plague
3. Klebsiella pneumonia
4. Yellow fever

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

87. In which one of the following study designs, the unit of study involves populations rather than individuals?
(a) Ecological studies
(b) Cross-sectional studies
(c) Case-control studies
(d) Cohort studies

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88. The following table shows the mortality figures among hazardous industry workers :

Age group	National death rate per 1000	Hazardous industry worker population	Observed deaths
25–34	2·0	3000	8
35–44	3·5	2000	9
45–54	6·0	2000	13

What is the Standardized Mortality Ratio (SMR) for the hazardous industry workers (as compared to national population) ?
(a) 100
(b) 110
(c) 120
(d) 130

89. Which one of the following best explains the relationship among Prevalence (P), Incidence (I) and Duration (D) of a disease given the assumption that the population is stable?
(a) $I = P \times D$
(b) $D = P \times I$
(c) $I = P + D$
(d) $P = I \times D$

90. A new test was developed for detection of COVID-19.

Test	Disease +	Disease –	Total
Positive	60	40	100
Negative	100	1800	1900
Total	160	1840	2000

What is the sensitivity of the test as per the information provided above ?
(a) 20·5%
(b) 37·5%
(c) 60%
(d) 97%

91. The blood glucose level of 5 individuals was 110, 94, 102, 98, 96 :
Consider the following statements :
1. The range is 16
2. The median is 98

3. The standard deviation is $\sqrt{10}$

Which of the above statements are correct ?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

92. Which of the following are true about measles ?

1. It is highly infectious in the phase following the appearance of rash
2. Infection usually confers lifelong immunity
3. It has a low secondary attack rate

Select the correct answer using the code given below:

(a) 1 and 2
(b) 2 and 3
(c) 1 and 3
(d) 2 only

93. Which of the following drugs should be avoided in the first-line ART regimens because of its well recognized metabolic toxicities ?

(a) Zidovudine (AZT)
(b) Stavudine (d4T)
(c) Tenofovir (TDF)
(d) Lamivudine (3TC)

94. The recommended dose of cotrimoxazole for treatment of pneumonia in a child weighing 16 kg is

(a) One paediatric tablet twice a day
(b) Two paediatric tablets twice a day
(c) Three paediatric tablets twice a day
(d) Four paediatric tablets twice a day

95. Hepatitis B vaccine administered at birth is

(a) A pentavalent vaccine
(b) A combined vaccine of inactivated Polio and Hepatitis B
(c) A monovalent vaccine of Hepatitis B
(d) A fixed combination vaccine of Hib, Hepatitis A and Hepatitis B

96. The classical triad of congenital defects in Congenital Rubella Syndrome include which of the following ?

1. Hydrocephalus
2. Deafness
3. Cardiac malformations
4. Cataract

Select the correct answer using the code given below:

(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

97. Which of the following are correct in respect of Diphtheria ?

1. The incubation period is 14 to 28 days
2. Diphtheria antitoxin is used in treatment of cases
3. It is one of the diseases protected from by the Pentavalent vaccine given in National Program

Select the correct answer using the code given below:

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

98. A person has presented with history of dog-bite on the uncovered surface of his right leg. There is a minor abrasion without bleeding. Consider the following statements about management :

1. The bite should be taken as a category I contact with suspect animal
2. The bite requires local treatment of the wound
3. The person requires immediate vaccination
4. The person requires immediate administration of rabies immunoglobulin

Which of the above statements are correct ?

(a) 1 and 2
(b) 2 and 3 only
(c) 3 and 4 only
(d) 2, 3 and 4

99. Consider the following stages of modern sewage treatment plants :

1. Use of Grit chamber
2. Use of Primary sedimentation tank
3. Screening
4. Use of Sludge digester

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What would be the correct sequence of the above stages ?
(a) 3 → 2 → 1 → 4
(b) 2 → 3 → 4 → 1
(c) 3 → 1 → 2 → 4
(d) 4 → 2 → 1 → 3

100. A vital layer, also known as Schmutzdecke is seen in which one of the following ?
(a) Air filter
(b) Rapid sand filter
(c) Slow sand filter
(d) Reverse osmosis filter

101. A 25 year old woman is a sedentary worker. She is a lactating mother with a 3 month old child. Which one among the following is the best approximation of her energy requirement in terms of kilocalories per day ?
(a) 1500 kcal/d
(b) 2250 kcal/d
(c) 2500 kcal/d
(d) 2830 kcal/d

102. The amount of iron lost per 28 day cycle in menstruating women is
(a) 5·5 mg
(b) 8·5 mg
(c) 12·5 mg
(d) 15·5 mg

103. The most sensitive indicator of environmental iodine deficiency is
(a) Prevalence of goitre
(b) Prevalence of neonatal hypothyroidism
(c) Prevalence of cretinism
(d) Urinary iodine excretion

104. Insulin Resistance Syndrome (Syndrome X) is associated with which of the following ?
1. Type 2 Diabetes Mellitus
2. Hyperinsulinaemia
3. Dyslipidaemia
4. Hypercalcaemia

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

105. The 'DASH diet' is a lifestyle modification for management of which of these conditions?
(a) Cancer
(b) Diabetes
(c) Anemia
(d) Hypertension

106. Which one of the following is a famous large prospective study that helped establish risk factors for coronary heart disease?
(a) Adelaide study
(b) Birmingham study
(c) Framingham study
(d) Pittsburg study

107. Most industrial workers are exposed to lead as an occupational hazard. Which of the following statements regarding lead poisoning are correct?
1. Lead poisoning is also called plumbism
2. Basophilic stippling of red blood cells is seen
3. Progressive massive fibrosis of lungs is seen
4. Coproporphyrin in urine (CPU) is a useful screening test

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

108. Of the following international agencies, which agency has been assisting India in development of friendly models of sanitization?
(a) SIDA (Swedish International Development Agency)
(b) DANIDA (Danish Development Agency)
(c) Ford Foundation
(d) CARE (Cooperative for Assistance and Relief Everywhere)

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109. Which one among the following was used for measuring economic status of households, in the National Family Health Survey-III (NFHS-III)?
(a) Kuppuswamy's scale
(b) Pareek scale
(c) Lifestyle index
(d) Wealth index

110. In a town with one lakh population (1,00,000) there are a total of 2500 live births in a year. There were 75 total deaths of children before the age of one month, total 200 deaths before the age of one year, and a total 300 deaths before the age of three years. Which of the following statements regarding Infant Mortality Rate (IMR) of the town for the given year are correct?
1. The denominator is 1,00,000
2. The IMR of the town is higher than the current national average of IMR for India
3. The numerator is the number of children dying before the age of one month
4. The IMR of the town is 80 per 1000 live births

Select the correct answer using the code given below:
(a) 2 only
(b) 2 and 4 only
(c) 1 and 3 only
(d) 1, 2 and 4

111. The voluntary scheme under which any obstetrics and gynaecology specialist, lady doctor/MBBS doctor can volunteer themselves for providing safe motherhood service is called
(a) Ayushman Bharat Scheme
(b) Mamta Scheme
(c) Janani Suraksha Scheme
(d) Vande Mataram Scheme

112. A 2 year old child has presented for vaccination, who has never been vaccinated earlier. As per the Universal Immunization Program, which among the following vaccines will be administered to the child on the first visit?
1. BCG vaccine
2. DPT-1 vaccine
3. Hepatitis B vaccine
4. Measles vaccine

Select the correct answer using the code given below:
(a) 1 and 3
(b) 2 only
(c) 1, 2 and 4
(d) 2 and 4 only

113. Consider the following statements:
Statement-1: In the National Immunization Program, BCG vaccine is given only on the left upper arm
Statement-2: This is done to maintain uniformity and for helping surveyors in verifying receipt of the vaccine
Which one of the following is correct in respect of the above Statements?
(a) Both Statement-1 and Statement-2 are correct and Statement-2 is the correct explanation for Statement-1
(b) Both Statement-1 and Statement-2 are correct and Statement-2 is not the correct explanation for Statement-1
(c) Statement-1 is true but Statement-2 is false
(d) Statement-1 is false but Statement-2 is true

114. You visit an industry to audit whether the benefits under the Employees State Insurance Act are being properly provided. Which of the following benefits should be available to the insured persons, or other dependents as the case may be?
1. Medical benefit
2. Sickness benefit
3. Funeral expenses
4. Rehabilitation allowance

Select the correct answer using the code given below:
(a) 1 and 3 only
(b) 2 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

115. Among the following intra-uterine contraceptive devices, which of the following are included in second generation IUDs?
1. Lippes Loop
2. Copper T-200

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68. A 25 year old girl is presented to Gynaecology OPD with complaints of abdominal pain, heavy menstrual bleeding with a mass arising from the hypogastrium corresponding to 16 weeks gravid uterus. Her urine pregnancy test is negative. The most likely diagnosis would be
(a) Pelvic inflammatory disease
(b) Uterine fibroid
(c) Ovarian tumour
(d) Endometriosis

69. A 39 year old nulliparous female has presented to Gynaecology OPD with complaint of post coital bleeding for past six months. The first investigation to be offered to this female will be
(a) Colposcopy
(b) Dilatation and Curettage
(c) Pap smear
(d) Cone Biopsy of Cervix

70. Procidentia as a degree of uterovaginal prolapse is characterised by descent of
(a) uterus into vagina
(b) uterine cervix outside vagina but uterine body inside vagina
(c) uterine cervix below ischial spine
(d) uterine cervix body with fundus outside vagina with eversion of entire vagina

71. Which of the following are indications of vaginal examinations during labour ?
1. To stretch the vagina intermittently
2. At the onset of labour
3. To monitor progress of labour
4. Following rupture of membranes
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

72. Which one of the following statements regarding Rh isoimmunization are correct ?
1. Liley's chart identifies anemia better than middle cerebral artery doppler
2. Indirect coomb's test is positive in mother
3. Baby is at risk of developing anemia
4. Direct coomb's test is positive in baby
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

73. As per ICMR guidelines, which of the following are the criteria for SARS-COV-2 exposure for a pregnant female during COVID-19 pandemic ?
1. Travel to an affected country within previous 14 days
2. Close contact with a confirmed case within a distance of 1 metre for more than 15 minutes
3. Living in neighbourhood of a confirmed case
4. Direct contact with body fluids of a confirmed case
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1, 3 and 4
(d) 2, 3 and 4

74. Which of the following are the clinical features of septic abortion ?
1. Persistent tachycardia $\geq$ 90 bpm
2. Impaired mental status
3. Hypothermia
Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

75. Consider the following statements:
Statement-1 : In fetal growth restriction there is always oligohydramnios
Statement-2 : In fetal growth restriction there is placental insufficiency leading to redistribution of blood flow to fetal brain shunting it from fetal kidney
Which one of the following is correct in respect of the above statements ?

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PAPER 2021 ANSWERS

1. (a) 1, 2 and 3

Wounds can heal by primary intention when edges are directly approximated (e.g., surgical incision), by secondary intention when left open to heal from the base upwards (e.g., large or infected wounds), or by tertiary intention (delayed primary) when a wound is initially left open (often for contamination reasons) and then later closed. "Quaternary intention" is not a recognized standard category of healing. Hence, options 1, 2, and 3 are correct.

2. (b) Cellulitis

Cellulitis is a diffuse, acute bacterial infection of the skin and subcutaneous tissues. It typically presents with poorly demarcated redness, warmth, swelling, and tenderness, without the gas production (crepitus) seen in necrotizing infections. Normal distal pulses also support that there is no compartment compromise. An abscess would usually be more localized with a fluctuant collection, and compartment syndrome features severe pain with possible vascular compromise. Hence, the clinical picture aligns with cellulitis.

3. (d) Liver cancer

BRCA1 and BRCA2 gene mutations significantly increase the risk of breast cancer and ovarian cancer in women. They also confer a raised risk of prostate cancer in men (especially BRCA2). There is some association with pancreatic cancer as well, but not a clear link with primary liver cancer. Therefore, liver cancer is the one among these options that is not characteristically associated with BRCA gene mutations.

4. (a) Lymphangiosarcoma

Stewart-Treves syndrome refers to the development of lymphangiosarcoma in a chronically lymphedematous limb, most classically in an arm following mastectomy with lymph node dissection for breast cancer. Chronic lymphatic obstruction eventually predisposes to this rare form of angiosarcoma. Melanoma, basal cell carcinoma, and liposarcoma are not linked to longstanding lymphedema in this specific manner.

5. (c) Thromboembolism

Sudden onset breathlessness and hypotension (80/50 mmHg) on the third postoperative day strongly suggests a pulmonary embolism. Postural hypotension would improve on lying down and typically lacks acute severe dyspnea. Secondary hemorrhage usually presents with obvious bleeding (e.g., wound site or vaginal bleeding) and would not directly cause acute respiratory distress. A transient ischemic attack affects neurologic function rather than causing severe breathlessness and hypotension. Hence, thromboembolism (particularly pulmonary) is most likely.

6. (a) Lymphangiosarcoma

Chronic lymphedema of an upper limb following mastectomy and axillary dissection is a classic setup for Stewart-Treves syndrome, a rare condition culminating in lymphangiosarcoma. This malignant tumor arises from lymphatic vessels. Other listed malignancies (melanoma, lymphoma, or malignant fibrous histiocytoma) do not specifically follow postmastectomy lymphedema in the same characteristic way.

7. (d) Ludwig's angina

Ludwig's angina is a rapidly spreading cellulitis of the submandibular and sublingual spaces, presenting with brawny or board-like swelling in the submandibular region. It often arises from dental infections and can lead to mouth-floor elevation, drooling, difficulty breathing, and foul breath (putrid halitosis). Tubercular or acute lymphadenitis generally do not present with this severe, rapidly progressive, "brawny" swelling and halitosis, while chronic lymphadenitis is not typically acutely severe with such systemic signs.

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8. (b) Papillary carcinoma thyroid

Papillary carcinoma of the thyroid is strongly linked with prior radiation exposure, especially in the head or neck region. It is the most common thyroid malignancy, often presenting with a painless neck swelling, and can show lymph node metastases early. Medullary thyroid carcinoma is associated with calcitonin production and certain genetic syndromes; follicular carcinoma typically spreads hematogenously; lymphoma has a more rapid growth pattern. The classic association with neck irradiation makes papillary carcinoma the most probable diagnosis.

9. (c) Cystic Hygroma

A cystic hygroma (lymphangioma) is a congenital lymphatic malformation that typically presents as a soft, cystic, and transilluminant swelling, often in the neck region. Branchial anomalies (fistula or cyst) are usually located along the anterior border of the sternocleidomastoid and do not transilluminate so brightly. A thyroglossal cyst is typically midline or near-midline and moves upward with protrusion of the tongue or swallowing. The brilliantly transilluminant, compressible nature points to a cystic hygroma.

10. (b) Papillary carcinoma thyroid

Thyroglobulin is produced by normal thyroid follicular cells and by differentiated thyroid carcinomas (particularly papillary and follicular types). It serves as a useful postoperative marker for recurrence in papillary (and also follicular) thyroid cancers if all normal thyroid tissue has been removed. Medullary carcinoma thyroid, in contrast, is tracked by calcitonin levels. Anaplastic carcinoma and thyroid lymphoma do not typically produce thyroglobulin in a way that makes it a reliable tumor marker.

11. (a) Fibrocystic disease

Single-duct discharge, especially serous or bloody, commonly raises suspicion for either intraductal papilloma or carcinoma. Mammary duct ectasia more often presents with thick, colored (greenish or brownish) discharge involving multiple ducts. Fibrocystic changes of the breast can cause discharge, but it typically involves multiple ducts and may be cyclical with hormonal influence. Since the question specifies a serous discharge from a single duct, fibrocystic disease is the least likely cause among these options.

12. (b) Acute intussusception

Intussusception in infants often presents as severe intermittent abdominal pain (with legs drawn up), "currant jelly" stools (blood-stained mucus), and lethargic intervals between episodes. Palpation may reveal an empty right lower quadrant (Dance's sign). Midgut volvulus typically presents earlier in life and can be more acutely catastrophic. Rectal prolapse is obvious on inspection, and caecal volvulus is more common in older children or adults. The classical triad of colicky pain, red mucus in stool, and a palpable mass supports intussusception.

13. (b) 2, 3 and 4

Ogilvie's syndrome (acute colonic pseudo-obstruction) resembles large bowel obstruction but occurs without a mechanical blockage, so statement 1 is incorrect because it is not truly a mechanical obstruction. Caecal dilatation on imaging (statement 2) is a hallmark. If distension is not relieved, the risk of caecal perforation (statement 3) increases. Intravenous neostigmine (statement 4) can provoke colonic contraction and help decompress the bowel. Therefore, statements 2, 3, and 4 are correct.

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14. (b) 2, 3 and 4

Carcinoid tumors arise from Kulchitsky (enterochromaffin) cells (statement 2) and commonly secrete 5-hydroxytryptamine (serotonin), making it the main vasoactive substance involved (statement 3). Serum chromogranin A is indeed a valuable marker to assess disease burden and recurrence (statement 4). Although the small intestine is a frequent site for carcinoids, the appendix is also reported as the single most common GI location, so statement 1 can be disputed in classical teaching. Hence, 2, 3, and 4 are correct.

15. (b) 1, 2 and 4

McCune-Albright syndrome (3) is classically gonadotropin-independent (peripheral) precocious puberty due to autonomous hormone production. Hence, 1, 2, and 4 best fit the category of GnRH-dependent.

63. (b) Coagulation disorder

In adolescents presenting with heavy and/or prolonged menstrual bleeding (puberty menorrhagia), an underlying coagulopathy—especially von Willebrand disease or other clotting-factor deficiencies—must be excluded early on. Simple anaemia is usually a result of heavy bleeding rather than the root cause; G-6PD deficiency does not typically present with menorrhagia. Leukemia is a less common consideration compared to straightforward bleeding disorders. Thus, screening for coagulation abnormalities is a priority in the evaluation of puberty menorrhagia.

64. (b) 15 million

Current WHO reference standards (most recent editions) define the lower threshold for "normal" sperm concentration as 15 million sperm per milliliter. Concentrations below this level (oligospermia) may reduce the probability of conception. Earlier guidelines often cited higher cutoffs (e.g., 20 million/mL), but 15 million/mL is now used in many modern infertility workups. Hence among the listed options, 15 million/mL is the recognized minimum normal count.

65. (a) 1, 2 and 3

Classic risk factors for PID include having multiple sexual partners (2), younger age, and lower socioeconomic status (3). Historically, some data also suggest that oral contraceptive pills (1) can increase cervical ectopy (making it somewhat easier for organisms to ascend), though this remains debated. "Genetic predisposition" (4) is not recognized as a typical risk factor. Since the question offers no "2 and 3 only" option, the best supported "textbook" choice is 1, 2, and 3.

66. (c) Epithelial tumor

Epithelial ovarian neoplasms are by far the most common histological category of ovarian cancer overall, especially in postmenopausal women. Germ cell tumors predominate in adolescents and young adults, while sex cord-stromal tumors (e.g., granulosa cell tumors) are less frequent. Trophoblastic tumors involve gestational tissue rather than the ovary per se. The classic demographic for epithelial ovarian carcinoma is the older, postmenopausal female with non-specific presentations such as abdominal distension and weight loss.

67. (c) 1, 2 and 4

Meigs' syndrome is classically defined by the triad of a benign ovarian fibroma (4), ascites (2), and a right-sided pleural effusion or hydrothorax (1). Removal of the ovarian fibroma typically resolves the ascites and hydrothorax. Genital warts (3) are unrelated to Meigs' syndrome. Thus the characteristic cluster is fibroma of the ovary, ascites, and right-sided hydrothorax.

68. (b) Uterine fibroid

A fibroid (leiomyoma) enlarging the uterus can simulate a "pregnancy-sized" mass (e.g., 12–16 weeks size). Typical presenting features include menorrhagia (heavy periods), dysmenorrhea, and a progressively enlarging pelvic mass. A negative pregnancy test helps exclude pregnancy or related trophoblastic disease. Ovarian tumors are more often adnexal and separate from the uterus; endometriosis does not typically create a large uterine mass. Pelvic inflammatory disease causes pain, tenderness, possibly fever, but not usually a discrete 16-week–sized swelling.

69. (c) Pap smear

Postcoital (contact) bleeding raises concern for cervical pathology, including dysplasia or invasive lesions. A Pap smear is the recommended initial screening test to detect cervical cytological abnormalities. If suspicious or abnormal findings appear, further steps may include colposcopic evaluation and directed biopsies. Dilatation & curettage (D&C) is unrelated to initial cervical assessment, and cone biopsy is more definitive treatment or diagnostic step if colposcopic biopsy is inconclusive. Thus, the Pap smear is the logical first investigation.

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benign pseudocysts. Hence, options 2, 3, and 4 are correct.

23. (d) 1, 2 and 4

Hepatic adenomas most commonly occur in women of reproductive age (25–50) and have a well-known association with oral contraceptive use. Many are asymptomatic and discovered incidentally on imaging. However, they do carry some risk of malignant transformation or spontaneous rupture and hemorrhage, so statement 3 claiming "no malignant potential" is incorrect. Hence, statements 1, 2, and 4 are correct.

24. (c) 1, 3 and 4

Ectopic (heterotopic) pancreatic tissue is most commonly found in the submucosa of the stomach, duodenum, or jejunum. It can also appear in unusual locations such as the splenic hilum or within mesenteric tissue. Occurrence in the liver is extraordinarily rare and not considered a typical or "probable" site. Hence, 1, 3, and 4 are recognized ectopic locations.

25. (c) Runs between gall bladder fossa and middle hepatic vein

Cantlie's line is the anatomical division separating the functional right and left lobes of the liver. It is drawn from the gallbladder fossa on the inferior surface to the confluence of the middle hepatic vein with the inferior vena cava. Thus the middle hepatic vein is the key reference here. The right and left portal veins or right hepatic vein are not used to define this specific dividing line.

26. (d) 2, 3 and 4

Common reasons for splenectomy include splenic injury (trauma), ITP (especially when medical treatment fails), and various causes of hypersplenism where the spleen's overactivity lowers blood cell counts. Pseudomyxoma peritonei (a mucin-producing peritoneal pathology) does not routinely require splenectomy as a standard part of its management. Hence, statements 2, 3, and 4 reflect established indications.

27. (c) Mesenteric cyst

A mesenteric cyst often presents as a painless, mobile swelling in the abdominal cavity. A classic clinical clue is that it can often be moved in a plane perpendicular to the mesentery's attachment—sometimes referred to as the "positive mesenteric slip sign." Ovarian cysts usually arise from the pelvis, dermoid cysts are typically ovarian (or other germ-cell sites), and hydatid cysts commonly involve the liver or other organs, not typically the freely mobile mesentery.

28. (b) Strangulated hernia

In a strangulated hernia, blood supply to the herniated bowel is compromised, leading to severe pain, tenderness, and possible overlying skin changes such as redness or edema. The swelling becomes irreducible and lacks a cough impulse. While "obstructed" or "incarcerated" hernias describe trapped bowel with or without obstruction, "strangulation" specifically indicates vascular compromise, suggested by the tense, tender swelling and systemic signs (tachycardia, hypotension). This presentation is most consistent with strangulation.

29. (c) Umbilical hernia

Mayo's repair is a commonly taught surgical procedure specifically for repairing umbilical (and sometimes epigastric) hernias. It involves overlapping layers of fascia to close the defect. Inguinal hernias are more often addressed by tension-free mesh techniques (Lichtenstein, etc.), femoral hernias may require McVay or other specialized repairs, and incisional hernias often utilize mesh-based approaches like onlay, sublay, or IPOM.

30. (a) 1, 2 and 3

The Pringle maneuver is performed by clamping the free edge of the lesser omentum (the hepatoduodenal ligament) to occlude the portal triad. This triad consists of the hepatic artery proper, the portal vein, and the common bile duct. By temporarily stopping inflow through these vessels, surgeons can control bleeding

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46. (c) 1, 2, 3 and 4

Primary ovarian pregnancy is diagnosed by Spiegelberg's four classical criteria: (1) The ipsilateral tube (including fimbria) is completely intact, (2) The gestational sac is located in the ovary's normal position, (3) The pregnancy is connected to the uterus only via the ovarian ligament, and (4) Histologic evidence of ovarian tissue in the sac wall. All four statements (1–4) match these requirements.

47. (b) Modified Biophysical profile includes Non-stress test and fetal breathing

A full Biophysical Profile (BPP) assesses five parameters (NST, fetal breathing, movements, tone, amniotic fluid volume). However, the modified BPP typically uses the non-stress test plus amniotic fluid index (AFI), not fetal breathing. Therefore, statement (b) is incorrect. The other statements—that daily fetal kick counts are a simple and valuable measure, that mothers perceive most movements (often quoted around 80–90%), and that a healthy fetus usually shows at least 10 movements in 12 hours—are considered valid.

48. (d) 1, 2 and 3 only

Ultrasound in pregnancy allows detection of major fetal anomalies (1), diagnosis of multiple gestation (2), and confirmation of fetal viability (3). However, the most accurate dating is achieved in the first-trimester or very early second-trimester ultrasound, not the third trimester. Late scans have greater inherent variability for fetal size. Hence statements (1), (2), and (3) are correct; statement (4) is incorrect.

49. (a) all pregnant mothers from 16 weeks onwards

Most guidelines recommend universal iron supplementation in pregnancy to accommodate increased demands for maternal hemoglobin mass and fetal growth. In many national programs, prophylactic iron is advised from the second trimester (around 14–16 weeks) onward for every pregnant woman, irrespective of baseline hemoglobin (unless clinically contraindicated). Restricting iron only to those <10 g/dL or solely poor eaters risks missing subclinical deficiencies. Beginning as early as six weeks is less common in routine guidelines.

50. (d) disappears or markedly reduced on rest

Mild pedal edema is common during late pregnancy from increased venous pressure and fluid retention. Typically, it is bilateral, predominantly affects the ankles, and lessens after rest or elevating the legs. It is not inherently linked to cardiac/renal disease—those pathologies produce more severe or persistent edema. Physiological edema is generally mild and improves overnight, differentiating it from pathological causes.

51. (d) 1 cm/hour

In the active phase of labour, a primigravida's cervix typically dilates at about 1–1.2 cm per hour (Friedman's curve). This rate ensures progressive cervical change until full dilation. Slower rates suggest dysfunctional labor, whereas multiparas often dilate faster (1.2–1.5 cm/hour). Hence, 1 cm/hour is the closest standard figure among the options given.

52. (b) Biparietal diameter (9·5 cm)

When a fetus in a well-flexed (vertex) presentation descends into the pelvis, the head engages with its largest transverse diameter, the biparietal diameter (9.5 cm). The anteroposterior diameter that presents in a well-flexed head is usually the suboccipitobregmatic (9.5 cm), but the question specifically asks for the transverse diameter, which is biparietal.

53. (c) higher protein content

Colostrum is the early breast secretion in the first few days postpartum. It is rich in immunoglobulins (especially IgA), growth factors, and has a higher protein concentration than mature breast milk. However, it typically has lower amounts of fat and carbohydrates, making it a crucial but more "protein-dense" fluid. Its overall water content is not dramatically lower than mature milk, so the main distinguishing macronutrient feature is high protein.

54. (b) may occur as early as 4 weeks

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"untidy" wounds—often due to trauma—contain crushed or avulsed tissues, are frequently contaminated, and include devitalized tissue that may require debridement. The absence of tissue loss (statement 4) is not typical of severely traumatic wounds. Hence, 1, 2, and 3 describe the features of an untidy wound.

39. (b) Hartmann's solution contains 111 meq/L of Cl

Typical 0.9% normal saline has approximately 154 mEq/L of sodium and 154 mEq/L of chloride. Ringer's lactate (Hartmann's) contains around 130 mEq/L of sodium, about 109–111 mEq/L of chloride, 4–5 mEq/L of potassium, and 28 mEq/L of lactate (converted to bicarbonate in the body). Thus, statement (b) is closest to the actual chloride content. The other statements about sodium or chloride concentrations are inconsistent with the standard compositions.

40. (b) 6-8 gm/dl

Although specific transfusion thresholds can vary, evidence supports that a restrictive strategy (transfusing below 7–8 g/dL) often has equal or better outcomes than more liberal triggers. Patients with hemoglobin under about 7 g/dL, especially in the perioperative setting, are more likely to benefit from transfusion. Above 10 g/dL, there is typically little proven benefit in otherwise stable patients. Hence, a hemoglobin level of 6–8 g/dL is widely recognized where perioperative transfusion can be most advantageous.

41. (b) 11-16 kg

For a pregnant woman with a normal pre-pregnancy BMI, the generally recommended total weight gain is around 11.5 to 16 kilograms (25–35 pounds). This range helps ensure proper fetal growth without excessive maternal weight gain that might complicate pregnancy or delivery. Lower gains (e.g., 7 kg) are advised only for those with higher BMIs, and higher gains (18+ kg) may be appropriate for those underweight before conception.

42. (c) by 40-50 per cent

During normal pregnancy, plasma volume expands significantly, peaking around the late second to early third trimester. The total blood volume can rise by about 40–50% over the nonpregnant baseline. This physiologic hypervolemia supports adequate uteroplacental perfusion and helps buffer maternal blood losses at delivery. Lower figures (10–30%) underestimate the actual volumetric expansion, and it is certainly not correct that no increase occurs.

43. (b) 1, 2 and 4

External cephalic version (ECV) typically aims to rotate a breech fetus to a cephalic position near term. Contraindications include active antepartum hemorrhage (risk to fetal/maternal well-being), multiple gestation (twins/triplets), and conditions like severe oligohydramnios (insufficient fluid for a safe version). A reactive nonstress test (NST) is actually a sign of fetal well-being, not a contraindication. Hence, 1, 2, and 4 correctly represent contraindications.

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44. (c) After 28 weeks of pregnancy

Antepartum hemorrhage (APH) is traditionally defined as bleeding from the genital tract after the 28th week of gestation (the "age of viability" in many textbooks) but before birth. Bleeding that occurs earlier in pregnancy is usually labeled as threatened or inevitable miscarriage (if <20–24 weeks), or mid-trimester bleeding. The classical teaching in many standard obstetric references points to 28 weeks as the cutoff for labeling bleeding as APH.

45. (d) Placenta previa

Well-known risk factors for pre-eclampsia include first pregnancy (primigravida), obesity, chronic hypertension or other pre-existing vascular disease, and certain conditions like multiple gestation or diabetes. Placenta previa, although a serious obstetric complication, is not classically linked to pre-eclampsia risk. Previa refers to abnormal placental implantation over or near the cervical os and does not itself predispose to the hypertensive spectrum of pre-eclampsia.

modulator (thus statement 2 is false). It exhibits antiestrogenic action in the uterus with some weak estrogenic effects elsewhere (3). It mainly prevents implantation rather than consistently blocking ovulation, so it does not reliably suppress ovulation (4).

78. (a) Monophasic

Government family planning programs in India primarily provide low-dose combined oral contraceptive pills containing fixed (monophasic) amounts of estrogen and progestin (e.g. "Mala-N," "Mala-D"). Biphasic or triphasic preparations are not standard in the government supply scheme, nor are purely estrogen-only pills typically offered. Hence "monophasic" combined pills are the recognized steroidal contraceptive choice made widely available.

79. (b) 1, 2 and 4

Absolute contraindications to combined oral contraceptives include a personal history of thrombotic events (arterial or venous), severe or uncontrolled hypertension (e.g., ≥160/100 mmHg), and diabetes with vascular involvement (retinopathy, nephropathy, etc.). Gestational trophoblastic neoplasia per se is not a universal absolute bar to COC use. Therefore, items 1, 2, and 4 are widely accepted as absolute contraindications.

80. (c) needed for 2 to 3 months

Following a vasectomy, residual sperm can persist in the male reproductive tract for several weeks or until approximately 20 ejaculations. Most guidelines recommend an alternative contraceptive method for about 3 months (or confirm azoospermia on semen analysis) to ensure there is no remaining viable sperm. Consequently, additional protection for at least 2–3 months is advised to prevent unintended pregnancy.

81. (b) 0·667

The HDI life expectancy component is calculated as:

Life Expectancy Index

$$= \frac{(\text{LE} - \text{Minimum})}{(\text{Maximum} - \text{Minimum})}$$

Here:

LE = 64, min = 20, max = 86.

So the ratio is

$$\frac{64-20}{86-20} = \frac{44}{66} = 0.666\ldots \approx 0.667$$

Hence (b) is the closest value for the Life Expectancy Index.

82. (c) 1, 2 and 4

The Physical Quality of Life Index (PQLI) combines three basic indicators of a population's well-being:

1. Infant mortality rate (IMR),
2. Life expectancy at age one,
3. Literacy (adult literacy rate).

"Per capita income" is not a component of PQLI (it is part of other indices like HDI). Therefore, 1 (infant mortality), 2 (life expectancy at 1 year), and 4 (literacy) form the basis of PQLI.

83. (c) 1, 2 and 4

A Primary Health Centre (PHC) typically has one Medical Officer, along with support staff such as a Pharmacist, staff nurse(s), health worker(s), and possibly a Health Educator or health assistant. An Anaesthetist (3) is not routinely stationed at a basic PHC; anesthesia services are more commonly found at higher-level facilities (CHCs or District Hospitals). Thus, the staff ordinarily posted are 1 (Medical Officer), 2 (Pharmacist), and 4 (Health Educator).

84. (c) Work Sampling

Work sampling is a method used in industrial/management engineering to analyze how workers or processes spend their time, aiming to improve efficiency and standardize tasks. It involves periodic observations to determine the proportion of time spent on different activities. Systems analysis and decision-making are broader conceptual frameworks, while personnel management is a general HR function. Work sampling specifically helps optimize and standardize job methods and workloads.

85. (a) Direct contact

Sexually transmitted infections primarily spread through intimate mucosal contact (genital, oral, or anal). The pathogens require close contact for

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In the absence of lactation, the hypothalamic-pituitary-ovarian axis can recover quickly postpartum. Ovulation has been documented as early as around 4 weeks postpartum in some women who are not breastfeeding. Lactation (via prolactin) typically suppresses GnRH and delays ovulation. However, non-lactating women can resume normal ovarian cycles sooner; thus (b) is the best answer.

55. (c) 1, 3 and 4

Outlet forceps require that the cervix be fully dilated (3), the fetal head well descended at or on the pelvic floor (4), and the maternal bladder empty (1). Additionally, the membranes must be ruptured (not intact), and the fetal position must be known. Hence 2 is incorrect. So the valid prerequisites here are 1, 3, and 4.

56. (c) 4 – 5·5

In reproductive-age women, normal vaginal flora (particularly lactobacilli) maintain an acidic pH typically around 3.8–4.5, though some references may broaden the range slightly above 5. Vaginal pH values <3 or up to 8 are not typical in a healthy, premenopausal woman without infection. The best approximate match from the given options is 4.0–5.5.

57. (a) Anterolateral wall of vagina

Gartner's duct cysts arise from remnants of the mesonephric (Wolffian) duct. They are classically found along the lateral or anterolateral walls of the upper vagina. Posterior or posterolateral vaginal wall cysts more commonly represent other embryologic remnants or different pathologies, and cysts in the labia minora have different etiologies. Hence, the anterolateral vaginal wall is the classical site.

58. (d) 21st to 23rd day

Histologic endometrial dating to confirm ovulation is best performed in the mid-luteal phase, about 7 days post-ovulation in a typical 28-day cycle. That corresponds to around day 21–23. Earlier sampling (days 8, 12, or 14) occurs before the secretory changes appear and thus would not confirm an ovulatory cycle.

59. (a) 1, 2 and 3

First-line therapy for primary dysmenorrhea includes NSAIDs (antiprostaglandins) to reduce menstrual prostaglandins and combined oral contraceptives to regulate cycles and lessen flow. In resistant cases, a pre-sacral neurectomy may be considered. Simple uterine curettage is not a standard remedy for primary dysmenorrhea. Thus 1, 2, and 3 are valid options; 4 is not typical for pain relief in uncomplicated dysmenorrhea.

60. (a) It is associated with hypogonadotropic hypogonadism

Obesity can disrupt normal GnRH pulsatility via leptin and insulin resistance pathways, sometimes creating a functional hypothalamic effect. This lowers gonadotropin (FSH/LH) release, leading to anovulation—thus a mild form of "hypogonadotropic hypogonadism." It is not typically hypergonadotropic (which implies primary ovarian failure). Nor is there "no change" in the HPO axis, and these patients more often have endometrial hyperplasia rather than atrophy.

61. (b) Viscosity 4

According to WHO guidelines, a normal ejaculate should liquefy within 30 minutes and not remain excessively viscous. Markedly high viscosity (e.g., a rating >3–4) is abnormal, as it may impede sperm motility and function. Semen volume ≥2 ml, progressive motility above 40–50%, and normal morphology >4–14% (depending on "strict" vs. older criteria) are generally acceptable. Hence, viscosity >4 is the clearly abnormal parameter among these options.

62. (b) 1, 2 and 4

True (central) precocious puberty arises from early hypothalamic–pituitary–gonadal (GnRH) activation. "Constitutional" early puberty (1) and CNS pathologies such as tubercular encephalitis (2) can trigger GnRH release. Severe primary hypothyroidism (4) may sometimes mimic GnRH-dependent mechanisms (via increased TRH possibly affecting gonadotropin secretion), although it is a rarer pathway. By contrast,

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from the liver. The inferior vena cava is not typically clamped in this maneuver.

31. (b) Fracture of the base of skull

Signs such as CSF otorrhea (from the ear), CSF rhinorrhea (from the nose), and bruising behind the ear (Battle's sign) or around the eyes (raccoon eyes) are characteristic indicators of a basilar skull fracture. Although the patient is conscious and relatively stable (GCS 14/15), these localized clinical findings strongly suggest fracture of the skull base rather than a simple concussion or extracranial bleed.

32. (a) Streptococcus pneumonia

Streptococcus pneumoniae (pneumococcus) is the most common bacterial pathogen in acute suppurative (purulent) otitis media. Other frequent organisms include Haemophilus influenzae and Moraxella catarrhalis, but among the choices given, S. pneumoniae is the major culprit. Staphylococcus aureus is more often implicated in chronic ear infections or postoperative infections, whereas gram-negative organisms (Acinetobacter, E. coli) are comparatively less common in this specific setting.

33. (d) 1, 2 and 4

The clinical picture—distended neck veins, tracheal deviation away from the affected side, hyper-resonance, and absent breath sounds—is classic for a left-sided tension pneumothorax. It is a clinical emergency requiring immediate needle decompression in the second intercostal space at the midclavicular line (statement 2). A chest X-ray is often delayed until after decompression because urgent intervention is required (so statement 3 is not a priority "immediate" step). Definitive management includes placement of a chest tube (statement 4).

34. (a) Distant metastatic disease

PET scanning (often combined with CT as PET-CT) is highly sensitive at detecting metabolically active lesions, particularly distant metastases that might not be easily seen on conventional imaging. While PET does provide some information about possible nodal involvement, its strongest and most clinically relevant role is ruling out or confirming distant metastases before definitive surgery for gastroesophageal cancers. Local spread and lymph node details are often better delineated by endoscopic ultrasound (EUS) or contrast-enhanced CT.

35. (d) 2, 3 and 4

Ectopic ureters typically occur more often in females, not males, so statement 1 is incorrect. When a duplex collecting system is present, the ureter from the upper renal pole often inserts ectopically, sometimes below the external urethral sphincter (especially in females), causing continuous incontinence (statements 2, 3, and 4). This association with ureteral duplication and drainage from the upper moiety is classic for ectopic ureters.

36. (a) Methoxyflurane

Methoxyflurane, an older inhalational anaesthetic, was largely abandoned because of its potential for nephrotoxicity. Its metabolism produces free fluoride ions, which can damage renal tubules. Isoflurane, halothane, and nitrous oxide have different side-effect profiles; halothane, for example, is more associated with hepatotoxicity. Isoflurane and nitrous oxide have relatively limited direct nephrotoxic effects compared to methoxyflurane.

37. (a) 1, 2 and 3

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In traumatic brain injury, it is crucial to maintain adequate cerebral perfusion and oxygenation. A pCO_2 of around 33–38 mm Hg helps avoid excessive vasodilation or vasoconstriction, MAP of 80–90 mm Hg ensures sufficient perfusion pressure, and a pO_2 80 mm Hg prevents hypoxia. Maintaining sodium above 130 mEq/L is preferred; hyponatremia ($Na^+ < 130$) can exacerbate cerebral edema. Hence, statements 1, 2, and 3 are correct.

38. (a) 1, 2 and 3

A "tidy" wound has clean, viable tissue with minimal contamination and straightforward edges (e.g. surgical incisions). In contrast,

70. (d) uterine cervix body with fundus outside vagina with eversion of entire vagina

Procidentia is the most advanced form of uterovaginal prolapse in which virtually the entire uterus descends beyond the vaginal introitus. The cervix and fundus are completely exteriorized, and the vagina itself is everted. Lesser degrees of prolapse (e.g., first or second degree) may involve partial descent, but in procidentia, the entire uterus and often the entire vaginal wall protrude outside.

71. (d) 2, 3 and 4

Vaginal examinations in labor are performed at specific intervals or events—such as the onset of true labor (2), periodically to check cervical dilatation and station (3), and also after rupture of membranes (4) to evaluate progress or detect cord prolapse. "Stretching the vagina intermittently" (1) is not a recognized standard indication; such maneuvers risk introducing infection and are not routinely performed. Hence the correct indications among the options given are 2, 3, and 4.

72. (d) 2, 3 and 4

In modern practice, MCA (middle cerebral artery) Doppler is more sensitive for fetal anemia than the older Liley's chart. Thus statement (1) is not correct. Indirect Coombs' test (2) detects maternal anti-Rh antibodies in her serum. A Rh-positive fetus is indeed at risk for anemia (3) due to hemolysis if maternal IgG crosses the placenta. The direct Coombs' test (4) on the neonate's RBCs is positive when those maternal antibodies have coated fetal red cells.

73. (b) 1, 2 and 4

Under most public health definitions, "exposure" includes recent travel to high-risk or "affected" regions (1), being within 1 meter for at least 15 minutes with a confirmed COVID-19 case (2), or direct contact with infectious materials/secretions (4). Merely "living in the same neighborhood" (3) does not necessarily constitute close contact unless there is significant direct interaction. Therefore, statements 1, 2, and 4 match standard contact-risk criteria for SARS-CoV-2.

74. (d) 1, 2 and 3

A septic abortion involves infection and sepsis in association with pregnancy loss. Clinical signs of sepsis can include persistent tachycardia (≥90 bpm), altered mental status (delirium or confusion), and sometimes hypothermia (or high fever), especially in severe septic shock. Thus all three features—(1), (2), and (3)—may be seen in advanced or fulminant septic abortion cases, reflecting systemic involvement.

75. (d) Statement-2 is true but Statement-1 is false

While placental insufficiency in fetal growth restriction (FGR) often leads to blood flow "brain-sparing" (away from kidneys), oligohydramnios does not occur in every case of FGR. It is common but not an absolute feature. In contrast, the concept of fetal blood flow redistribution to protect the brain is a recognized pathophysiologic mechanism when placental function is compromised (Statement-2 is true). Hence, it is accurate that Statement-2 is correct, but Statement-1 is not always true.

76. 1, 2 and 4 are correct.

For "perfect use" or very low-failure scenarios,

1. Depot medroxyprogesterone acetate (DMPA) can approach about 0.2–1 per 100 woman-years,
2. Norplant (implants) have a very low failure rate around 0.1,
3. Levonorgestrel oral "mini-pills" often show around 3 per 100 woman-years in typical use.

However, the LNG-IUS (Mirena) usually has a failure rate closer to 0.2 rather than 0.02, so statement 3 is an overestimation of efficacy. Hence 1, 2, and 4 are the most accurate among the given figures.

77. (b) 1, 3 and 4

Ormeloxifene (Centchroman, also known as Saheli) was developed at the Central Drug Research Institute in Lucknow (1). It is a non-steroidal selective estrogen receptor

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Familial adenomatous polyposis (FAP) is characterized by the presence of hundreds to thousands of adenomatous polyps in the colon (statement 1). It follows an autosomal dominant (not recessive) inheritance pattern, so statement 3 is false. A positive family history (statement 2) is frequent, and the typical gene defect is on the APC gene located on chromosome 5 (statement 4). Therefore, statements 1, 2 and 4 are correct.

16. (b) Gastrointestinal stromal tumor

GISTs (gastrointestinal stromal tumors) are commonly found in the stomach, can present with an exophytic growth, and often ulcerate or bleed leading to hematemesis. A hallmark diagnostic feature is positivity for the CD117 (c-KIT) marker. In this scenario, the overlying mucosa is intact—typical of submucosal GISTs—which distinguishes it from primary mucosal lesions like carcinoma. Lymphoma and carcinoid tumors do not usually show CD117 positivity, making GIST the most likely diagnosis here.

17. (c) Constipation

The classic presentation of acute appendicitis typically includes periumbilical pain (that later localizes to the right lower quadrant), associated anorexia, nausea, and sometimes vomiting. These are considered the "classical" features in many patients. Constipation or diarrhea can occasionally occur, but they are not regarded as classical or pathognomonic symptoms. Therefore, among the options given, constipation is the least "classic" and is not relied upon in the typical diagnostic triad.

18. (a) Eye complications (Iritis/Uveitis)

Crohn's disease can have many extraintestinal manifestations, including ocular complications such as iritis and uveitis. These inflammatory eye changes can flare in parallel with Crohn's intestinal disease activity. Renal calculi are more a result of malabsorption and hyperoxaluria rather than disease activity. Primary sclerosing cholangitis is more typically linked to ulcerative colitis. Chronic active hepatitis does not reliably parallel Crohn's flares. Hence, iritis/uveitis is most closely correlated with active disease.

19. (c) 1, 3 and 4

The MELD score (commonly used for prioritizing liver transplant candidates) is calculated primarily from three lab values: serum bilirubin, serum creatinine and INR. Serum albumin, while used in the Child-Pugh score, is not included in the MELD formula. Therefore, among the listed variables, 1 (bilirubin), 3 (creatinine), and 4 (INR) are correct for MELD.

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20. (d) 1, 2 and 4

Salmonella typhi indeed causes typhoid (enteric) fever (statement 1). Perforation most commonly occurs in the third week of illness (statement 2), typically in the terminal ileum (statement 4). The characteristic typhoid ulcer is arranged along the long axis of the bowel rather than placed transversely—transverse ulcers are more typical of tuberculosis. Thus statement 3 is incorrect, and 1, 2, and 4 are correct.

21. (b) Small bowel perforation

In typhoid fever, the inflammatory process often affects Peyer's patches in the terminal ileum. By the second or third week, these lesions can deepen and lead to perforation. The sudden onset of severe pain, "board-like" abdominal rigidity (signifying peritonitis), and systemic features (tachycardia, hypotension) strongly suggest intestinal perforation. Simple enteritis or obstruction would not typically cause such acute peritonitis, and cholecystitis would localize pain to the right upper quadrant rather than generalized guarding and rigidity.

22. (d) 2, 3 and 4

Management options for a pancreatic pseudocyst include conservative monitoring when small and asymptomatic, or drainage procedures if large or symptomatic. Common drainage techniques include endoscopic drainage (cystogastrostomy or cystoduodenostomy), percutaneous catheter drainage under radiologic guidance, or surgical drainage (cystogastrostomy). Pancreaticoduodenectomy (Whipple's procedure) is a far more radical operation generally reserved for malignant or complicated situations, not a standard management step for

effective transmission, making "direct contact" the main route. Droplet transmission (e.g., coughing/sneezing), soil contact, or vectors (like mosquitoes/ticks) are not how classic STDs propagate. Gonorrhea, syphilis, chlamydia, and other STIs rely on direct person-to-person exchange of bodily fluids.

86. (b) 1, 2 and 4

The International Health Regulations require countries to notify WHO about certain epidemic-prone or globally significant diseases. Cholera, plague, and yellow fever are classically on this list. Klebsiella pneumonia (3) is not among those specifically mandated for IHR notification. Hence diseases 1 (cholera), 2 (plague), and 4 (yellow fever) must be reported to WHO.

87. (a) Ecological studies

Ecological studies examine data aggregated at the group or population level (e.g., average dietary intake vs. disease rates in different countries) rather than on individual participants. Cross-sectional, case-control, and cohort designs gather data at the individual level—assessing each person's exposure and outcome status. Ecological designs can suggest population-level correlations but cannot ascertain individual cause-effect relationships directly.

88. (c) 120

First, calculate the expected deaths for each age group by multiplying its national death rate (per 1000) by the worker population / 1000.

1. 25–34: $2.0 \times 3000/1000 = 6$ expected
2. 35–44: $3.5 \times 2000/1000 = 7$ expected
3. 45–54: $6.0 \times 2000/1000 = 12$ expected

Total expected $= 6 + 7 + 12 = 25$.

Actual observed $= 8 + 9 + 13 = 30$.

SMR = (Observed / Expected) $\times 100 = (30 / 25) \times 100 = 120$.

89. (d) $P = I \times D$

In a stable population, the classic epidemiologic formula relates prevalence to incidence and average disease duration:

Put simply, in a steady-state situation (with no major migrations or large mortality fluctuations), the proportion of existing cases (prevalence) depends on how frequently new cases arise (incidence) and how long they remain cases (duration).

90. (b) 37·5%

$$\text{Sensitivity} = \frac{\text{True Positives}}{\text{True Positives} + \text{False Negatives}} \times 100\%$$

Here, True Positives = 60 (test positive & disease +), and False Negatives = 100 (test negative & disease +). So total diseased = 60+100=160.

$$\textit{Sensitivity} = \frac{60}{160} \times 100\% = 37.5\%.$$

91. (a) 1 and 2 only

Sorted glucose values: 94, 96, 98, 102, 110.

Range = 110 – 94 = 16 → (True).

Median (middle value) = 98 → (True).

To check standard deviation: The mean is (94+96+98+102+110)/5 = 500/5=100. Squared deviations sum to 160, so variance = 160/5=32, giving $\sqrt{32} \approx 5.66$. That is not $\sqrt{10} \approx 3.16$. So statement 3 is false.

92. (a) 1 and 2

Measles is extremely contagious and remains highly infectious roughly from 4 days before rash onset until 4 days after rash appears—so it is indeed very infectious in the early rash phase as well. Once infected, an individual usually develops lifelong immunity. The secondary attack rate is actually very high (often over 80–90% in susceptible households), so statement 3 claiming it is "low" is false. Thus statements 1 and 2 are correct.

93. (b) Stavudine (d4T)

Stavudine (d4T), one of the older nucleoside reverse transcriptase inhibitors, is well known for serious metabolic side-effects like lactic acidosis, lipodystrophy, neuropathy, and hyperlipidemia. Current antiretroviral therapy guidelines have phased it out in favor of agents with fewer toxicities (e.g., tenofovir, lamivudine). Zidovudine can cause anemia and myopathy but is not as strongly contraindicated as d4T, while tenofovir and lamivudine are frequently used first-line.

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(d) It is a part of preventive medicine

42. Consider the following statements regarding Non Stress Test (NST):
1. Reactive NST indicates a healthy fetus
2. NST is an observed association of fetal breathing with fetal movements
3. NST has a low false negative rate (<1%) but high false positive rate (>50%)
4. Testing should be started at 20 weeks

Which of the statement(s) given above is/are correct?
(a) 1 and 3
(b) 2 only
(c) 3 only
(d) 1 and 4

43. Which one of the following is a protective factor for endometrial hyperplasia?
(a) Diabetes
(b) Tamoxifen therapy
(c) Multiparity
(d) Delayed menopause

44. A woman who is not breast feeding her newborn child is advised to use a contraceptive method by:
(a) 3rd postpartum week
(b) 6th postpartum week
(c) 3rd postpartum month
(d) 6th postpartum month

45. Pearl index for contraceptive effectiveness is calculated in terms of which of the following?
1. Pregnancy rate
2. Abortion rate
3. Hundred woman years
4. Thousand woman years

Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3
(c) 1, 2 and 4
(d) 1 and 3

46. Indications for removal of IUDs are all EXCEPT:
(a) Perforation of uterus
(b) Cyclical menstrual bleeding
(c) Flaring up of salpingitis
(d) Pregnancy with IUD

47. Contraindications for insertion of IUDs are all EXCEPT:
(a) Suspected pregnancy
(b) Trophoblastic disease
(c) Severe dysmenorrhea
(d) During cesarean section

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48. Which one of the following is NOT a contraindication for use of Mini pill?
(a) Pregnancy
(b) Breast feeding
(c) Thromboembolic disease
(d) History of breast cancer

49. Which one of the following is the most commonly used surgical method/technique of female sterilization as recommended by Government of India?
(a) Uchida technique
(b) Irving method
(c) Pomeroy's method
(d) Madlener technique

50. Which of the following is/are required for a registered medical practitioner to qualify for performing Medical Termination of Pregnancy (MTP), as per revised rules of MTP Act?
1. Certified for assisting at least 15 MTP in an authorized centre
2. Diploma or degree in Obstetrics and Gynaecology
3. House surgeon training for 3 months in Obstetrics and Gynaecology
4. Certified training for 6 months in laparoscopic surgeries

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) 1, 2 and 3
(d) 1, 2 and 4

cretinism are more delayed consequences. Urinary iodine excretion responds quickly to dietary changes, making it the best screening tool for environmental iodine deficiency.

104. (a) 1, 2 and 3

Metabolic (Insulin Resistance) Syndrome—also called Syndrome X—commonly includes Type 2 diabetes or glucose intolerance (1), hyperinsulinemia (2), dyslipidemia (high triglycerides, low HDL) (3), and hypertension. Hypercalcemia (4) is not a defining feature. Thus statements 1, 2, and 3 are correct associations with metabolic syndrome.

105. (d) Hypertension

"DASH" stands for Dietary Approaches to Stop Hypertension. It emphasizes fruits, vegetables, whole grains, low-fat dairy, and reduced sodium intake. Multiple trials have shown that the DASH eating plan can significantly lower elevated blood pressure and improve cardiovascular health. It is not specifically designed for cancer, diabetes, or anemia, although people with those conditions may also benefit from a generally balanced diet.

106. (c) Framingham study

The Framingham Heart Study (initiated in 1948 in Framingham, Massachusetts) is one of the most influential longitudinal studies in medicine. It identified major cardiovascular risk factors such as hypertension, high cholesterol, smoking, obesity, diabetes, and physical inactivity. Results from this ongoing multi-generation study have shaped public health guidelines and clinical strategies worldwide to prevent and manage coronary heart disease.

107. (b) 1, 2 and 4

Lead poisoning is classically called "plumbism" (1). A hallmark laboratory feature is basophilic stippling of RBCs (2). Testing for urinary porphyrins (like coproporphyrin) is useful for screening (4). However, "progressive massive fibrosis" is more typical of pneumoconioses such as silicosis, not lead poisoning, so (3) is incorrect. Hence 1, 2, and 4 are the correct statements about occupational lead exposure.

108. (b) DANIDA

DANIDA, the Danish International Development Agency, has historically partnered with India to promote various community health and sanitation initiatives. This collaboration has included supporting "people-friendly" or appropriate rural sanitation models. Although other agencies (SIDA, Ford Foundation, CARE) also work internationally on development projects, DANIDA's direct involvement in Indian sanitation projects is well-documented.

109. (d) Wealth index

NFHS-III (and subsequent NFHS rounds) used a "wealth index" constructed from household assets (e.g., type of housing, access to water, consumer goods). This index stratifies families into quintiles of socioeconomic status. Kuppuswamy's and Pareek scales are common in smaller-scale or clinical research settings, but NFHS-III nationwide reports rely primarily on this asset-based wealth index rather than traditional income or occupation-education scales.

110. (b) 2 and 4 only

Infant Mortality Rate (IMR) = (Number of deaths among children <1 year of age ÷ Number of live births) × 1000. Here, there were 200 infant deaths and 2500 live births, so IMR = (200/2500) × 1000 = 80. This figure is indeed higher than India's current national average. The denominator for IMR is live births (not the total population), and the numerator for IMR is deaths <1 year (not <1 month). Therefore, statements (2) and (4) are correct.

111. (d) Vande Mataram Scheme

The Vande Mataram Scheme was launched to involve private healthcare providers—particularly obstetricians and gynecologists—in extending safe motherhood services voluntarily, especially antenatal care for underprivileged women. It differs from Janani Suraksha Yojana, which is an incentive-based program to promote institutional deliveries. Ayushman Bharat covers

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(d) infection via fallopian tubes

20. Structure not forming boundaries of the 'Triangle of doom' seen during laparoscopic inguinal hernia surgery dissection is:
(a) Vas deferens
(b) Inferior epigastric artery
(c) Spermatic cord vessels
(d) Peritoneum

21. The term mid-line shift is associated with:
(a) Head injury
(b) Chest injury
(c) Abdominal injury
(d) Limb injury

22. Which one of the following cranial nerves does NOT supply to the external ear?
(a) Cranial nerve V
(b) Cranial nerve VI
(c) Cranial nerve VII
(d) Cranial nerve IX

23. Left Internal Mammary Artery (LIMA) has become the conduit of choice for Left Anterior Descending (LAD) artery during coronary artery bypass grafting because:
(a) Long term patency rates are more than 98%
(b) It is close to LAD
(c) Atherosclerosis is never seen in this vessel
(d) It is very easy to harvest

24. A 50-year old male with significant smoking history presented in the surgical emergency with sudden severe breathlessness. Chest X-ray shows right sided Pneumothorax. The appropriate management requires:
(a) Aspiration of air with 16-18 G cannula
(b) Right chest drain of size 8-14 Fr
(c) Oxygen by face mask
(d) Mechanical ventilation

25. Which one of the following statements regarding Felon is NOT correct?
(a) There is infection of the finger tip between specialised fibrous septa
(b) It is a painless condition
(c) Incision and drainage is the treatment of choice
(d) It is common in diabetics

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26. The most common site for osteosarcoma is:
(a) Proximal femur
(b) Distal femur
(c) Proximal humerus
(d) Distal humerus

27. Rapid Sequence Induction is indicated in:
(a) Emergency surgery for intestinal obstruction
(b) Elective open hernia surgery
(c) Cardiopulmonary bypass surgery
(d) Elective laparoscopic surgery

28. Which one of the following statements about Compartment Syndrome is NOT correct?
(a) It is commonest in a closed fracture
(b) Pain is on active movement but not on passive movement of muscles
(c) Fasciotomy is the treatment of choice
(d) Volkmann's Ischaemic contracture is a late complication

29. Which one of the following is NOT the strength of ultrasound as a diagnostic modality?
(a) No radiation
(b) Short learning curve
(c) Inexpensive
(d) Allows dynamic studies to be done

30. Which of the following statements regarding lymphoedema following breast cancer treatment are correct?
1. Incidence has decreased due to rarely combined therapy of axillary LN dissection and radiotherapy
2. Precipitating cause like LN metastasis is a major determinant
3. The condition is often painful
4. Oedematous limb is susceptible to bacterial infection

Select the correct answer using the code given below:

distribution of COVID-19 vaccines worldwide. The Ford Foundation is not among the three core partners. Therefore, options 1 (GAVI), 2 (WHO), and 4 (CEPI) are the main agencies driving COVAX.

END

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94. (b) Two paediatric tablets twice a day

For pediatric pneumonia, WHO/IMNCI guidelines often recommend cotrimoxazole (sulfamethoxazole-trimethoprim) in a dose approximating 8 mg/kg/day of trimethoprim in two divided doses. A standard pediatric tablet generally contains 80 mg trimethoprim + 400 mg sulfamethoxazole. For a 16 kg child, about 2 tablets twice daily is appropriate to achieve the recommended daily trimethoprim dose (160 mg/day).

95. (c) A monovalent vaccine of Hepatitis B

In India's Universal Immunization Programme (UIP), the birth dose of Hepatitis B vaccine is given as a single-component (monovalent) vaccine. The pentavalent (DPT-HepB-Hib) injection is introduced starting from 6 weeks of age, not at birth. Hence the correct preparation for the birth dose is a monovalent Hepatitis B vaccine.

96. (d) 2, 3 and 4

Congenital rubella syndrome typically features the triad of (1) sensorineural deafness, (2) congenital heart defects (particularly patent ductus arteriosus), and (3) ocular anomalies such as cataracts. "Hydrocephalus" is not part of the classical triad. Hence (2), (3), and (4) form the recognized triad.

97. (b) 2 and 3 only

Typical incubation period for diphtheria is around 2–5 days (may extend up to 10), not as long as 14–28 days. Diphtheria antitoxin is a crucial component of therapy for confirmed cases (2), and the disease is covered by the DPT (diphtheria-pertussis-tetanus) vaccine, which also appears in pentavalent form (DPT + Hib + Hep B) under the national immunization program (3).

98. (b) 2 and 3 only

Minor scratches or superficial abrasions without bleeding on exposed skin are classified as Category II rabies exposure, not Category I (so 1 is false). Category II requires immediate wound washing (2) plus post-exposure vaccination (3). Immunoglobulin (RIG) is only given for Category III (transdermal bites, bleeding wounds, mucosal exposure). Therefore 4 does not apply here.

99. (c) 3 → 1 → 2 → 4

A typical flow in modern sewage treatment:

1. Screening (3) to remove large debris,
2. Grit chamber (1) to settle out heavy inorganic particles,
3. Primary sedimentation tank (2) for settling of suspended solids,
4. Sludge digester (4) to break down the collected sludge.

Hence the order is 3 → 1 → 2 → 4.

100. (c) Slow sand filter

In slow sand filters, a biological layer (the "schmutzdecke" or "dirty layer") develops on top of the sand, composed of bacteria, protozoa, algae, and other microorganisms. This layer significantly improves filtration by biologically trapping and metabolizing pathogens. Rapid sand filters or other systems do not rely on such a thick biologic layer.

101. (c) 2500 kcal/d

A sedentary adult woman typically requires around 1900 kcal/day. Lactation (first 6 months postpartum) adds 500–550 kcal/day. Combining these approximates gives 2400–2450 kcal/day, so 2500 kcal is a good rounded figure. 1500 kcal would be too low; 2830 would be high for a sedentary routine. Hence, (c) is the best approximate answer.

102. (d) 15·5 mg

In most references, the average monthly menstrual blood loss is around 30–40 ml, corresponding to roughly 15–20 mg of iron. Hence a typical estimate for iron lost each cycle is 15 mg. Among the given choices, 15.5 mg is the nearest figure.

103. (d) Urinary iodine excretion

When assessing population iodine status, urinary iodine levels provide the most direct and sensitive measure of recent iodine intake. Goiter rates, neonatal hypothyroidism, and

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(b) IV propanolol
(c) IV hydrocortisone
(d) IV antibiotics

9. A patient operated for a parotid gland tumour developed symptoms of sweating and erythema (flushing) over the region of surgical excision while eating. The probable diagnosis is:
(a) Parotid gland fistula
(b) Sialadenitis
(c) Chronic wound infection
(d) Frey's syndrome

10. First line hormone therapy for post-menopausal woman with metastatic carcinoma breast is:
(a) Tamoxifen
(b) Ovarian suppression by surgery
(c) Antiprogestins
(d) Anastrazole

11. All of the following are major subtypes of breast cancer based on Gene array analysis EXCEPT:
(a) Luminal A and Luminal B
(b) Triple negative
(c) Her-2 receptor positive
(d) Oestrogen receptor positive

12. All of the following are sequelae of peptic ulcer surgery EXCEPT:
(a) Bilious vomiting
(b) Dumping syndrome
(c) Diarrhoea
(d) Increased appetite

13. The Child-Turcotte-Pugh (CTP) score for quantifying the severity of chronic liver disease includes all variables EXCEPT:
(a) Serum bilirubin
(b) Serum albumin
(c) Serum creatinine
(d) INR (International Normalised Ratio)

14. 'Chain of Lakes' appearance due to sacculation with intervening short strictures of pancreatic duct is seen on:
(a) ERCP
(b) CECT abdomen
(c) Plain X-ray abdomen
(d) Ultrasonography

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15. Which one of the following statements is NOT correct regarding Pyogenic Liver Abscess?
(a) Anorexia, fever, malaise and right upper quadrant abdominal discomfort are the most common presenting features
(b) It is more common in elderly, diabetics and immunocompromised patients
(c) Treatment is with oral antibiotics alone
(d) Streptococcus milleri and escherichia coli are the most common causative organisms

16. 'Swiss cheese defects' are seen during laparoscopic repair of:
(a) Ventral hernia
(b) Inguinal hernia
(c) Obturator hernia
(d) Femoral hernia

17. Which of the following are correct regarding splenic artery aneurysm?
1. Main arterial trunk is the common site
2. Palpable thrill can be felt
3. It is symptomless unless it ruptures
Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

18. Valentino's syndrome is:
(a) Pain on per-vaginal examination in pelvic abscess
(b) Pain over left shoulder in left hypochondriac collection
(c) Pain over left groin in perirenal collection
(d) Pain in right iliac fossa in perforated peptic ulcer

19. Spontaneous bacterial peritonitis occurs due to:
(a) duodenal stump blowout
(b) peptic ulcer perforation
(c) acute bacterial infection of ascites

QUESTION PAPER 2020

1. Indications for fasciotomy in compartment syndrome include all EXCEPT:
   (a) Distal sensory disturbance
   (b) Compartment pressure 30 mm Hg
   (c) Pain on passive movement of affected muscles
   (d) Palpable distal pulses

2. Which one of the following statements is NOT correct regarding Necrotising Soft Tissue infections?
   (a) Crepitus, skin blistering and focal skin gangrene are typical presenting features
   (b) They are monomicrobial in nature
   (c) Treatment consists of wide local excision and appropriate antibiotics
   (d) Tissue biopsy is required for culture and diagnosis

3. Which type of surgery is laparoscopic cholecystectomy classified as?
   (a) Clean
   (b) Clean contaminated
   (c) Contaminated
   (d) Dirty

4. A 22-year female has presented with a history of malaise, cough, alternating constipation and diarrhoea with intermittent abdominal pain for last 6 months. She also complains of abdominal distension for last 2 days. On examination her abdomen has a doughy feel along with an ill defined mass over the right lower quadrant. She is most likely suffering from:
   (a) Appendicular lump
   (b) Ileo caecal tuberculosis
   (c) Carcinoma caecum
   (d) Ovarian mass

5. Consider the following statements regarding needle stick injuries:
   1. Injured part should be washed under running water
   2. Dominant index finger is the commonest site for needle stick injury
   3. All needle stick injuries should be reported
   4. Hepatitis/HIV testing should be done after needle stick injury

   Which of the statements given above are correct?
   (a) 1, 2 and 4
   (b) 1, 2 and 3
   (c) 1, 3 and 4
   (d) 2, 3 and 4

6. Consider the following statements regarding claudication:
   1. It is a marker for silent coronary disease
   2. Structured exercise program (2 hours per week for 3 months) leads to improvement in symptoms
   3. Diabetes mellitus increases the risk and severity of claudication
   4. Beta blockers may exacerbate claudication

   Which of the above statements are correct?
   (a) 1 and 2 only
   (b) 1, 3 and 4 only
   (c) 2, 3 and 4 only
   (d) 1, 2, 3 and 4

7. A 50-year old lady underwent uneventful bariatric surgery for morbid obesity. On the third post operative day, she develops breathless and pulmonary embolism is suspected. The next investigation to confirm the diagnosis will be:
   (a) Echocardiography
   (b) Duplex venography
   (c) CT pulmonary angiography
   (d) MR angiography

8. Medical management of thyrotoxic crisis includes all of the following EXCEPT:
   (a) IV fluids

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(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

31. Which one of the following is NOT a risk factor for development of venous thrombosis in surgical patients?
(a) Age 60 years
(b) Pregnancy
(c) Obesity (BMI 30 kg/m2)
(d) Diabetes (HbA1c 7.5%)

32. Which one of the following is NOT a complication of massive blood transfusion?
(a) Coagulopathy
(b) Hypocalcaemia
(c) Hyperthermia
(d) Hyperkalemia

33. Stage III 'Pressure sore' is full thickness skin loss extending:
(a) into subcutaneous tissue but not through fascia
(b) through subcutaneous tissue into fascia
(c) through subcutaneous tissue into fascia and muscles
(d) through subcutaneous tissue into fascia, muscles and bone

34. During subclavian vein puncture in a surgical ward suddenly a patient developed severe breathlessness. On auscultation breath sound was absent and the ipsilateral chest was tympanitic on percussion. The probable diagnosis is:
(a) Iatrogenic pneumothorax
(b) Iatrogenic hemothorax
(c) Spontaneous pneumothorax
(d) Tension pneumothorax

35. Kohler's disease is avascular necrosis of:
(a) Lunate
(b) Capitellum of humerus
(c) First metatarsal head
(d) Navicular

36. Which one of the following is NOT true of Pyoderma gangrenosum?
(a) It is characterized by cutaneous ulceration with purple undermined edges
(b) It is often secondary to heightened immunological reactivity from another disease process
(c) Cultures often show Gram positive Staphylococci
(d) Lesions generally respond to steroids

37. Which of the following is NOT a tissue repair surgery for inguinal hernia repair?
(a) Bassini's repair
(b) Shouldice repair
(c) Stoppa's repair
(d) Desarda repair

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38. Which one of the following type of meshes is recommended for intraperitoneal use in abdominal wall hernia?
(a) Light weight, porous meshes
(b) Heavy weight, porous meshes
(c) Absorbable meshes
(d) Tissue separating meshes

39. Which one of the following is NOT correct regarding MEN-1 syndrome?
(a) It involves parathyroid glands
(b) It involves pancreas
(c) It involves pituitary gland
(d) It involves pineal gland

40. Which one of the following is NOT an electronic information site in surgery?
(a) Pubmed
(b) Embase
(c) Cochrane library
(d) National medical library

41. Which one of the following statements regarding pre-conceptional counseling is NOT correct?
(a) It is needed only in selected complicated pregnancies
(b) It helps in early detection of risk factors
(c) It helps in reducing maternal morbidity and mortality

broader health insurance. Thus Vande Mataram specifically facilitates volunteer doctors offering maternal healthcare.

112. (c) 1, 2 and 4

In catch-up immunization for a completely unvaccinated 2-year-old, BCG can still be given (if not previously received and no active TB). DPT-1 (as part of the primary series) is also initiated, and measles (commonly first dose at 9 months) must be given if not received. While Hepatitis B is crucial, government UIP protocols typically emphasize BCG, DPT, OPV, and measles first in an older child's catch-up. Hence, from the listed choices, 1 (BCG), 2 (DPT-1), and 4 (Measles) are correct.

113. (a) Both Statement-1 and Statement-2 are correct and Statement-2 is the correct explanation for Statement-1

Under India's immunization guidelines, BCG is consistently administered in the left upper arm. This practice ensures a uniform site to check for the BCG scar, making it easier for health workers or surveyors to confirm vaccination status in the field. Thus Statement-1 is correct, and Statement-2 accurately explains why that standardized site is used.

114. (c) 1, 2 and 3 only

Under the ESI (Employees State Insurance) Act, insured persons (and in certain cases their dependents) are entitled to medical benefits (1), sickness benefit (2), disablement benefit, dependents' benefit, and funeral expenses (3). A specific "rehabilitation allowance" is not classically listed as a separate ESI benefit category, though vocational rehabilitation or extended support might be covered under disablement provisions. Therefore, items 1, 2, and 3 are the recognized standard benefits.

115. (d) 2 and 4 only

Inert plastic IUDs (e.g., Lippes Loop) are considered "first generation." "Second generation" IUDs add copper for greater efficacy (e.g., Copper T-200, Copper T-380A). "Third generation" includes hormone-releasing systems like LNG-20 (Mirena). Hence among the given options, 2 (Copper T-200) and 4 (Copper T-380A) are second-generation IUDs.

116. (c) National Tuberculosis Control Programme

DANIDA (Danish International Development Agency) has been an important external partner in India's fight against tuberculosis. While numerous donor and global organizations have supported various national health initiatives, DANIDA is specifically recognized for its role in strengthening the Revised National Tuberculosis Control Programme (RNTCP).

117. (b) Common point source only

All attendees presumably consumed the same contaminated food or drink at the party, so the cases typically occur within one incubation period from a single exposure event. This is characteristic of a "common point source" outbreak. In a "continuous" source outbreak, exposure persists over time; in a "propagated" outbreak, infection spreads person-to-person. Here, the presentation strongly suggests a single-meal (point) exposure resulting in an acute cluster of gastroenteritis.

118. (a) 2, 3 and 4

BCG is administered intradermally, not intramuscularly. Hepatitis B, Pentavalent (DPT + HepB + Hib), and Inactivated Polio Vaccine (IPV) are all given via the intramuscular route under most national immunization guidelines. Thus items 2, 3, and 4 are correct.

119. (b) Inactivated whole virus vaccine

Covaxin, developed by Bharat Biotech in collaboration with ICMR, is produced by inactivating (killing) SARS-CoV-2 virus particles and formulating them as a whole-virion vaccine. Thus it cannot replicate and is considered a traditional inactivated platform. It is not a live attenuated vaccine.

120. (c) 1, 2 and 4

COVAX is a global collaboration co-led by GAVI (the Vaccine Alliance), WHO, and CEPI to accelerate development and equitable

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51. Which one of the following is NOT a support of uterus, preventing its descent?
(a) Endopelvic fascia
(b) Mackenrodt's ligament
(c) Inguinal ligament
(d) Pubocervical ligament

52. As per ICMR guidelines, which one of the following statements is true regarding effects of COVID-19 on fetus according to current evidence?
(a) There is increased risk of early pregnancy loss
(b) COVID-19 virus is not teratogenic
(c) COVID-19 virus infection is an indication of MTP
(d) There is increased risk of fetal growth restriction

53. As per ICMR guidelines, which one of the following statements is true regarding COVID-19 infection in pregnancy?
(a) Covid-19 pneumonia in pregnancy is more severe with poor recovery
(b) Pregnant women with heart disease are at higher risk
(c) Vaginal secretions always test positive for COVID-19 in pregnancy
(d) COVID-19 virus is secreted in breast milk

54. Which one of the following is NOT a method of management of Deep Transverse Arrest with the living fetus?
(a) Caesarean section
(b) Delivery by ventouse
(c) Delivery by application of forceps to the unrotated head
(d) Manual rotation and application of forceps

55. Successful version of breech presentation is likely in case all of the following EXCEPT:
(a) Breech with extended legs
(b) Complete breech with sacroanterior position
(c) Non engaged breech
(d) Adequate amniotic fluid

56. Implantation of a fertilised ovum occurs on which day following fertilisation?
(a) Day 6
(b) Day 10
(c) Day 14
(d) Day 20

57. During total abdominal hysterectomy the ureter is likely to undergo injury or ligation during the following steps EXCEPT:
(a) During division and ligation of the round ligaments
(b) During division and ligation of infundibulopelvic ligaments
(c) During division and ligation of mackenrodt's and uterosacral ligaments
(d) At the vaginal angles while incising the vagina to remove the cervix with the uterus

58. The net effect of antenatal care has been the following EXCEPT:
(a) Reduction in maternal mortality
(b) Reduction in perinatal mortality
(c) Reduction in the incidence of institutional delivery
(d) Reduction in maternal morbidity

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59. Which one of the following is NOT a component of active phase in the partograph?
(a) Acceleration phase
(b) Phase of maximum slope
(c) Phase of deceleration
(d) Phase of expulsion

60. From medicolegal point of view which one of the following is NOT a sign of previous child birth?
(a) Perineum is lax and there is evidence of scarring
(b) Introitus is gaping and there is presence of carunculae myrtiformes
(c) Abdomen is lax and loose with striae and linea alba
(d) Conical cervix with round external os

61. The components of partograph are all EXCEPT:
(a) Time

116. The presence of which of the following bacteria in drinking water is an important confirmatory evidence of recent faecal pollution of water?
(a) E. coli
(b) Streptococci
(c) Clostridium
(d) Klebsiella

117. With regard to the Goals, Milestones and Targets for the Global Technical Strategy for Malaria (2016–2030), consider the following statements:
1. Compared to 2015, the target is to reduce the malaria mortality rates globally by at least 90% by year 2030
2. Compared to 2015, the target is to reduce malaria case incidence by 90% by year 2030
3. Eliminate malaria from at least 35 countries, where malaria was transmitted in 2015, by year 2030

Which of the above statements hold true?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

118. Which one of the following IUDs is associated with a low pregnancy rate (0.2 per 100), less number of ectopic pregnancies and lower menstrual blood loss?
(a) Cu T-380A
(b) ML-Cu 375
(c) Progestasert
(d) LNG-20 (Mirena)

119. The incidence of diarrhoea is highest among infants in the age group of 6–11 months due to all of the following reasons EXCEPT:
(a) Declining level of maternal antibodies
(b) Introduction of foods which may be contaminated
(c) Eruption of teeth
(d) Direct contact with human or animal faeces

120. In the context of 'Anti-Malaria Month Campaign', consider the following statements:
1. It is observed every year in the month of June
2. It is planned during the Monsoon season
3. It aims to enhance the level of community awareness and participation

Select the correct answer using the code given below:
(a) 1 and 2
(b) 2 and 3
(c) 3 only
(d) 1 and 3

END

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72. Common clinical presentations of moderate to severe abruption are all EXCEPT:
(a) Uterine tenderness
(b) Fetal distress
(c) Unexplained pre term labour
(d) Prolonged labour

73. Common trisomies resulting in spontaneous abortion are all EXCEPT:
(a) Trisomy 21
(b) Trisomy 18
(c) Trisomy 16
(d) Trisomy 1

74. The initial prevention strategy for antiphospholipid syndrome will be:
1. Steroids
2. Heparin
3. Low dose aspirin
4. Progesterone support

Which of the above is/are correct?
(a) 2 and 3
(b) 3 and 4
(c) 3 only
(d) 1 and 4

75. Diagnostic criteria for PCOD are:
1. Oligo/amenorrhoea
2. Hyperandrogenism
3. Polycystic ovaries on ultrasound

Which of the above are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

76. Which of the following symptoms can be associated with pelvic organ prolapse?
1. Difficulty in passing urine
2. Incomplete evacuation of urine
3. Urgency and frequency

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

77. A 30 year old lady, P_2L_2 presents with painful unilateral swelling in vulva for 3 days. Which of the following statements are true regarding the above case?
1. Bartholin's abscess may be the likely diagnosis
2. It is to be managed by marsupialisation
3. Gonococcus is the most common pathogenic organism

Select the correct answer using the code given below:
(a) 1 and 3 only
(b) 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

78. Which one of the following is NOT a sign of separation of placenta?
(a) Uterus becomes globular, firm and ballotable
(b) The fundal height reduces further
(c) Slight bulging in the suprapubic region
(d) Apparent lengthening of the cord with slight gush of vaginal bleeding

79. Consider the following regarding examination of a rape victim:
1. Emergency pill is provided
2. Internal examination must be performed
3. HIV testing is done

Which of the above statements is/are correct?
(a) 1 and 3 only
(b) 2 only
(c) 1, 2 and 3
(d) 3 only

80. Consider the following cardinal movements of mechanism of normal labor:
1. Engagement
2. Internal rotation
3. Flexion
4. Restitution
5. Crowning
6. External rotation

What is the correct sequence of movements in labor in occipito-lateral position?
(a) 1, 2, 3, 4, 5 and 6
(b) 1, 3, 2, 5, 4 and 6

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PAPER 2020 ANSWERS

1. (d) Palpable distal pulses

While diminished or absent pulses can occur in severe compartment syndrome, pulses often remain palpable despite dangerously elevated compartment pressures. Key indications for fasciotomy include clinical findings such as severe pain (especially on passive stretch), sensory disturbances, and compartment pressures above 30 mm Hg. "Palpable distal pulses" can still be present even with significant compartment compromise and therefore is not a standard indication for fasciotomy, making it the exception among the listed options.

2. (b) They are monomicrobial in nature

Necrotising soft tissue infections are commonly polymicrobial (involving aerobic and anaerobic bacteria). Typical hallmarks include crepitus, blistering, and gangrenous changes. Prompt wide excision of necrotic tissue, combined with broad-spectrum antibiotics, is mandatory. Tissue biopsy or deep tissue cultures can help identify the causative organisms, but stating these infections are monomicrobial is generally incorrect. Because more than one organism is usually involved, option (b) is the statement that does not correctly describe these aggressive, life-threatening infections.

3. (b) Clean contaminated

Surgical procedures involving the biliary tract (such as a cholecystectomy) under controlled conditions—without gross spillage or active infection—are categorized as "clean contaminated." This classification recognizes that while the gastrointestinal/biliary system is entered, measures are taken to minimize bacterial spread. Fully "clean" surgeries typically do not involve entry into a hollow viscus, and "contaminated" or "dirty" procedures imply spillage or existing infection. Laparoscopic cholecystectomy usually fits "clean contaminated" if no bile leak or infection is present.

4. (b) Ileo caecal tuberculosis

Ileo caecal tuberculosis is characterized by chronic abdominal pain, alternating bowel habits (constipation and diarrhoea), systemic symptoms (malaise, possible cough from pulmonary involvement), and a palpable mass in the right lower quadrant. The abdomen often has a "doughy" consistency. This presentation differs from appendicular lump, carcinoma, or gynecological masses, which tend to have more acute or different systemic manifestations. The chronic nature and the association with a tuberculosis history (suggested by cough and systemic symptoms) strongly point to ileo caecal TB.

5. (c) 1, 3 and 4

After any needle stick injury, the immediate step is to wash the injured site thoroughly under running water (statement 1). Reporting all injuries (statement 3) is vital for documentation, risk assessment, and appropriate prophylaxis. Testing for blood-borne pathogens like hepatitis B/C and HIV (statement 4) should follow. However, the most commonly pricked finger is often the non-dominant or supporting hand/finger rather than the dominant index finger, making statement 2 less consistently correct. Hence, 1, 3, and 4 are the correct statements.

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6. (d) 1, 2, 3 and 4

Claudication, often due to peripheral arterial disease, can indicate widespread atherosclerosis and thus can be a marker of possible silent coronary artery disease (statement 1). Structured exercise regimens over a consistent period typically improve walking distance and reduce pain (statement 2). Diabetes mellitus greatly accelerates atherosclerosis, increasing both the risk and severity of claudication (statement 3). Non-selective beta blockers can reduce peripheral perfusion, potentially exacerbating claudication (statement 4). Therefore, all four

88. Major source of vitamin K_1 is:
(a) Fresh dark green vegetables
(b) Exposure of body to sunlight
(c) Citrus fruits
(d) Foods rich in polyunsaturated fatty acids

89. Which one of the following is NOT a function of Epidemiology?
(a) To study historically the rise and fall of disease in the population
(b) Searching for the causes and risk factor
(c) Identifying syndromes
(d) Making clinical diagnosis

90. Which one of the following is NOT a contagious disease?
(a) Malaria
(b) Scabies
(c) Trachoma
(d) Leprosy

91. In primary immune response, how much more antigenic dose is required to induce IgG antibodies as against the induction of IgM antibodies?
(a) 10 times more
(b) 25 times more
(c) 50 times more
(d) 100 times more

92. Pentavalent vaccine provides protection against which of the following diseases?
(a) Diphtheria, Pertussis, Tuberculosis, Measles and Hepatitis B
(b) Diphtheria, Pertussis, Measles, Hepatitis B and Hib
(c) Diphtheria, Pertussis, Tetanus, Hepatitis B and Rubella
(d) Diphtheria, Pertussis, Tetanus, Hepatitis B and Hib

93. Consider the following data for a country:
Population in 0–14 years of age = 391,558,367
Population between 15–64 years of age = 856,076,200
Population above 65 years of age = 71,943,390
What shall be the dependency ratio of this country?
(a) 42.4%
(b) 54.1%
(c) 66.2%
(d) 78.6%

94. Which one of the following statements regarding Rabies Immunoglobulin is NOT true?
(a) It should be administered only once as soon as possible after the initiation of post exposure prophylaxis
(b) It should be administered all into or around the wound sites
(c) There is no scientific ground for performing a skin test prior to administering equine immunoglobulin
(d) It can be administered till 15 days after the first dose of anti-rabies vaccine

95. All of the following are true about Bedaquiline (BDQ) EXCEPT:
(a) It specifically targets mycobacterial ATP synthase
(b) It is a bacteriostatic drug
(c) It has extended half life
(d) It has high volume of tissue distribution

96. Visual inspection based screening test with 5% acetic acid is used for the screening of which one of the following cancers?
(a) Lung cancer
(b) Cervix cancer
(c) Oral cancer
(d) Breast cancer

97. Predictive accuracy of a screening test depends on the following EXCEPT:
(a) Disease prevalence
(b) Disease incidence
(c) Sensitivity of screening test
(d) Specificity of screening test

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(c) 2, 1, 3, 4, 5 and 6
(d) 3, 1, 2, 4, 6 and 5

81. Which of the following represent the properties of an ideal disinfectant?
1. It is broad spectrum
2. It is fast acting
3. It is non-toxic

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

82. Which of the following measures can help reduce the risk of systemic hypertension?
1. Reduction in dietary intake of common salt
2. Controlling weight for age
3. Increasing potassium rich foods in the diet

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

83. Keeping biological determinants in perspective, consider the following statements:
1. Presence of a normal karyotype is the first requisite for human health
2. Genetic screening can play an important role in prevention of wide spectrum of diseases
3. If an individual is allowed to live in healthy relationship with the environment, the person's genetic potentialities can transform into phenotypic realities

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 1, 2 and 3
(d) 2 and 3 only

84. NITI Aayog has the following roles EXCEPT:
(a) It provides critical directional and strategic input in the development process
(b) It provides relevant technical advice with focus on technology upgradation
(c) It focuses on capacity building
(d) It focuses on the development of 'Referral Service Complex'

85. Poor hand hygiene of a mess worker in a university college mess led to Hepatitis A cases in the hostel inmates. What type of epidemic will this exposure present with?
1. Propagated
2. Common source-continuous exposure
3. Common source-point exposure

Select the correct answer using the code given below:
(a) 1 and 2
(b) 1 and 3
(c) 1 only
(d) 2 only

86. What is the specificity of sputum microscopy in detection of Pulmonary Tuberculosis (PTB) as per the information given below?

PTB	Present	Absent	Total
Sputum +	270	20	290
Sputum –	30	180	210
Total	300	200	500

(a) 10%
(b) 36%
(c) 90%
(d) 94%

87. In a cohort of 500 women attending antenatal clinic, 70% had ultrasonography (USG). This cohort was followed up at delivery. Of the women who had USG, 70 delivered low birth weight (LBW) babies; whereas of the women, who did not undergo USG, 50 delivered LBW babies. The incidence of LBW babies among women who had USG is:
(a) 10%
(b) 15%
(c) 20%
(d) 25%

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(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

107. Hold over time of cold chain equipment depends on all of the following factors EXCEPT:
(a) Ambient temperature
(b) Quantity of vaccines kept
(c) Types of vaccines kept
(d) Condition of icepack lining

108. Which of the following statements regarding Physical Quality of Life Index (PQLI) are correct?
1. It consolidates infant mortality, life expectancy at age one, and literacy
2. It does not measure economic growth but measures the result of economic policies
3. For each component, the performance of individual countries is placed on a scale of 0–100

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

109. Disability-adjusted life years (DALYs) include:
(a) Years of lost life (YLL)
(b) Years lost to disability (YLD)
(c) Both YLL and YLD
(d) Neither YLL nor YLD

110. Which of the following are health care delivery indicators?
1. Population per trained birth attendant
2. Population per health/sub centre
3. Doctor-nurse ratio

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

111. Which of the following key action areas are incorporated in the Ottawa Charter?
1. Building healthy public policy
2. Strengthening community action for health
3. Reorienting health services

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

112. Under Chapter XXI of the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10), lifestyle-related problems fall under which of the following code range?
(a) U 50.0 – U 50.5
(b) U 10.0 – U 10.5
(c) Z 72.0 – Z 72.5
(d) Z 10.0 – Z 10.5

113. Which of the following diseases are spread by airborne transmission?
1. Influenza
2. Chicken pox
3. Q-fever
4. Psittacosis

Select the correct answer using the code given below:
(a) 1 and 3 only
(b) 1 and 4 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

114. DASH diet plan is advocated in the control of which one of the following diseases?
(a) Cancer
(b) Chronic Obstructive Pulmonary Disease
(c) Hypertension
(d) Rheumatic heart disease

115. Endemic ascites occurs due to:
(a) Naturally occurring toxin
(b) Bacterial toxin
(c) Fungal toxin
(d) Viral toxin

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(b) Fetal heart rate
(c) Maternal respiratory rate
(d) Maternal urine analysis

62. Which of the following information are provided by partograph?
1. Colour of liquor
2. Uterine contractions with duration and frequency
3. Dilatation of cervix

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

63. Intraoperative recognition of ureter is by which of the following features?
1. Transparent tubular appearance
2. Pale glistening appearance
3. Longitudinal vessels on surface
4. Circumferential vessels on surface

Select the correct answer using the code given below:
(a) 1 and 3
(b) 2 and 4
(c) 2 and 3
(d) 1 and 4

64. Hysterosalpingography (HSG) is least helpful in detecting which of the following?
(a) Tubal patency
(b) Pelvic adhesions
(c) Asherman syndrome
(d) Congenital uterine anomaly

65. Which of the following are characteristics of Trichomonas vaginitis?
1. Presence of greenish frothy discharge
2. Vaginal pH 4.5
3. Presence of clue cells in microscopic examination
4. Strawberry spots on the vaginal mucosa

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 2, 3 and 4
(d) 1, 3 and 4

66. Tumor marker of epithelial ovarian carcinoma is:
(a) Ca.125
(b) Alpha feto protein
(c) Beta HCG
(d) LDH

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67. The most common site of cervical cancer is:
(a) Endocervix
(b) Ectocervix
(c) Transformation zone
(d) Isthmus

68. The placenta synthesizes all EXCEPT:
(a) Oestriol
(b) Corticotrophin releasing hormone
(c) PAPP-A (Pregnancy Associated Plasma Protein A)
(d) Dehydroepiandrosterone

69. Withdrawal bleeding following administration of progesterone in a case of secondary amenorrhea indicates all EXCEPT:
(a) Absence of pregnancy
(b) Production endogenous estrogen
(c) Endometrium is responsive to estrogen
(d) Defect in pituitary gland

70. Monilial vaginitis is commonly associated with all EXCEPT:
(a) Prolonged antibiotic therapy
(b) Diabetes Mellitus
(c) Treatment of malaria with chloroquine
(d) Pregnancy

71. Which one of the following is NOT a risk factor for the development of placenta previa?
(a) Maternal age
(b) Smoking
(c) Previous caesarean section
(d) Maternal anaemia

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98. How much of Zinc supplement is recommended by WHO and UNICEF for infants less than 6 months of age after an episode of acute diarrhoea?
(a) 20 mg per day for 10–14 days
(b) 10 mg per day for 10–14 days
(c) 5 mg per day for 7 days
(d) 6 mg per day for 7 days

99. Which one of the following statements regarding sequential administration of Inactivated Polio Vaccine (IPV) and Oral Polio Vaccine (OPV) is NOT correct?
(a) It will be cost effective in developing countries for Polio prevention
(b) The combined schedules of IPV and OPV appear to reduce or prevent Vaccine Associated Paralytic Polio (VAPP)
(c) Intestinal mucosal immunity is lost due to IPV administration
(d) IPV and OPV together may optimize both the humoral and mucosal immunogenicity of Polio vaccine

100. What is the recommended dose regimen of Vitamin A for the treatment of early stages of Xerophthalmia?
(a) Single massive dose of 2 lac International Units (IU)
(b) 2 lac IU on two successive days
(c) 2 doses of 1 lac IU in two successive days
(d) 2 doses of 1 lac IU at a gap of one week

101. Which is the most specific causative agent of Rabies?
(a) Lyssavirus serotype 1
(b) Lyssavirus serotype 2
(c) Lyssavirus serotype 3
(d) Lyssavirus serotype 4

102. Which one of the following is the antibiotic of choice for the prevention of Rheumatic heart disease?
(a) Benzathine Benzyl Penicillin
(b) Procaine Penicillin
(c) Doxycycline
(d) Ciprofloxacin

103. All of the following are global targets for WHO Global Action Plan (2013–2020) for Prevention and Control of NCDs, EXCEPT:
(a) A 10% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases
(b) A 10% relative reduction in prevalence of insufficient physical activity
(c) A 10% relative reduction in mean population intake of salt/sodium
(d) At least 10% relative reduction in the harmful use of alcohol

104. Under the Employees State Insurance (ESI) Scheme, extended sickness benefit is provided in which of the following infectious diseases?
1. Tuberculosis
2. Leprosy
3. Chronic empyema

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

105. In the context of NCD prevention and control in India, the extent of relative reduction in household use of solid fuels as a primary source of energy for cooking by 2025 is targeted at:
(a) 30%
(b) 40%
(c) 50%
(d) 60%

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106. Consider the following criteria which may indicate elimination of lymphatic filariasis in a community:
1. When lymphatic filariasis ceases to be a public health problem in the community
2. When the number of microfilaria carriers declines to 1.5% within the community
3. When children born in the community after the initiation of elimination programme are free from circulating antigenaemia

Which of the criteria stated above hold true?
(a) 1 and 2 only

statements accurately reflect claudication considerations.

7. (c) CT pulmonary angiography

Pulmonary embolism (PE) is a common postoperative complication, particularly in individuals with obesity. The most definitive and practical imaging test to confirm or rule out a suspected PE is a CT pulmonary angiogram (CTPA). It directly visualizes the pulmonary vasculature and identifies intraluminal clots. Echocardiography can suggest right ventricular strain but is less definitive for diagnosing PE. Duplex venography helps detect deep vein thrombosis in the limbs, and MR angiography is less commonly used due to availability and time constraints.

8. (d) IV antibiotics

Thyrotoxic crisis (thyroid storm) management requires aggressive treatment with intravenous fluids to maintain hemodynamic stability, IV beta-blockers (like propranolol) to control sympathetic overdrive, and corticosteroids (such as hydrocortisone) to inhibit peripheral conversion of T4 to T3 and manage possible relative adrenal insufficiency. Specific antithyroid drugs (e.g., propylthiouracil or methimazole) are also critical. IV antibiotics, however, are not routinely indicated unless there is a coexisting infection. Hence, "IV antibiotics" is the outlier among the listed options.

9. (d) Frey's syndrome

Frey's syndrome (gustatory sweating) arises after parotid surgery or trauma. Damaged auriculotemporal nerve fibers may aberrantly regrow and innervate cutaneous sweat glands in the region of the parotid gland. Consequently, when the patient eats (especially sour or spicy foods that stimulate salivation), these nerves activate sweating and flushing in the surgical area instead of (or in addition to) salivation. This phenomenon is distinct from a parotid fistula, infection, or simple inflammation, and specifically explains the sweating and flushing post-meal.

10. (d) Anastrazole

For postmenopausal women with hormone receptor–positive metastatic breast cancer, aromatase inhibitors like anastrozole are commonly the first-line endocrine therapy. They work by inhibiting peripheral estrogen synthesis, effectively reducing tumor growth in estrogen-dependent breast cancer cells. Tamoxifen remains an option in some settings, but guidelines often favor aromatase inhibitors in postmenopausal patients for better efficacy and side-effect profile. Surgical ovarian suppression and antiprogestins are less typical front-line approaches compared to the recognized benefit of anastrazole in this group.

11. (d) Oestrogen receptor positive

Gene expression profiling classifies breast cancers primarily as: Luminal A, Luminal B, HER2-enriched, and Basal-like (often triple negative). "ER-positive" is an immunohistochemical designation rather than a distinct intrinsic molecular subtype in the context of gene array classification. Luminal A and Luminal B both tend to be ER-positive but also differ in proliferation genes, while Triple negative correlates with basal-like subtype. HER2-enriched is another recognized molecular class. Hence, "Oestrogen receptor positive" alone is not listed as a separate gene array subtype.

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12. (d) Increased appetite

Common post-gastrectomy complications or sequelae include bilious vomiting (often due to reflux of bile into the stomach remnant), dumping syndrome (rapid gastric emptying leading to vasomotor and GI symptoms), and diarrhea (related to altered intestinal transit and malabsorption). However, these surgeries typically do not cause increased appetite. In fact, reduced stomach capacity and altered gut hormone feedback often decrease appetite or cause early satiety. Therefore, "increased appetite" is not a usual postoperative phenomenon and is the exception.

13. (c) Serum creatinine

The Child-Turcotte-Pugh (CTP) scoring system evaluates the prognosis in chronic liver disease by assessing serum bilirubin, serum albumin,

androgen precursor. While the placenta can convert circulating DHEA into estrogens, it does not itself synthesize significant amounts of DHEA de novo. Thus, among these options, DHEA is the one not actively produced by the placenta.

69. (d) Defect in pituitary gland

A positive "progesterone withdrawal bleed" implies that the endometrium is being primed by sufficient endogenous estrogen and that the outflow tract (uterus/vagina) is intact. It also confirms there is no ongoing pregnancy. A pituitary failure (leading to very low FSH/LH and thus very low estrogen) would typically prevent the endometrium from developing. Hence, the fact that the patient bleeds with progesterone withdrawal effectively rules out a significant pituitary defect as the cause of amenorrhea.

70. (c) Treatment of malaria with chloroquine

Candida (monilial) vaginitis is encouraged by altered vaginal flora, hyperglycemia, or a dampened immune response. Prolonged antibiotic therapy kills protective lactobacilli, diabetes mellitus provides a high-sugar environment favorable to yeast, and pregnancy increases vaginal glycogen and alters local immunity. In contrast, chloroquine therapy for malaria is not typically implicated in increasing the risk of candidal vaginitis. Therefore, among these choices, it is the least likely association ("EXCEPT").

71. (d) Maternal anaemia

Placenta previa (placental implantation over or very near the cervical os) is strongly linked to previous uterine surgery or scarring (e.g. prior C-section), advanced maternal age, multiparity, multiple gestation, and smoking. Maternal anemia, while a significant obstetric issue, is not a recognized specific risk factor for placenta previa. Hence, among the listed factors, "maternal anemia" does not classically predispose to placenta previa and is the correct "NOT" option.

72. (d) Prolonged labour

Abruptio placenta (placental separation before delivery) often presents with abdominal pain, uterine tenderness or hypertonus, and can precipitate fetal distress or unexplained preterm labor if bleeding is significant. Typically the uterus may contract frequently or remain very firm, rather than leading to a protracted or prolonged labor. Sudden onset of intense pain and potential shock are more characteristic. "Prolonged labor" is not a hallmark feature and thus is the best "EXCEPT" among the listed options.

73. (d) Trisomy 1

Among chromosomal anomalies, the most frequently observed autosomal trisomies in miscarriages include 16, 18, and 21 (with 16 being the single most common cause of first-trimester losses). Trisomy 21 (Down syndrome) can also lead to spontaneous abortion if severe. Trisomy 1, however, is extremely rare and not typically found in clinically recognized pregnancies, as it is almost always lethal at a very early developmental stage. Hence, "Trisomy 1" is the correct "EXCEPT."

74. (a) 2 and 3

In antiphospholipid syndrome (APS), the mainstay to reduce pregnancy losses and thrombotic events is combination prophylaxis with low-dose aspirin plus unfractionated or low-molecular-weight heparin. Steroids are sometimes used when there is an overlapping connective tissue disease (e.g. SLE flares), not as routine prophylaxis. Progesterone supplementation is not standard therapy for APS. Thus, statements 2 (Heparin) and 3 (Low dose aspirin) accurately reflect the principal initial prevention approach for APS in pregnancy.

75. (d) 1, 2 and 3

Polycystic Ovary Syndrome (PCOS) is usually diagnosed (Rotterdam criteria) when two out of the following three findings are present: oligo-/anovulation (often manifesting as oligomenorrhea or amenorrhea), clinical or biochemical hyperandrogenism, and polycystic ovaries on ultrasound. Thus, all three statements

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are crucial to reduce morbidity and mortality in these patients.

20. (b) Inferior epigastric artery

In laparoscopic inguinal hernia repair, the "Triangle of Doom" is the region where the external iliac vessels lie, bordered by the vas deferens medially and the gonadal (spermatic) vessels laterally. The peritoneum forms a covering in that area. The inferior epigastric artery instead runs more medially (toward the rectus sheath) and does not form a boundary of this specific triangle. Awareness of these boundaries is crucial to avoid vascular injuries during trocar placement and mesh fixation.

21. (a) Head injury

"Mid-line shift" refers to a shift of the brain's midline structures (such as the falx or ventricles) to one side, usually seen on neuroimaging (CT or MRI). This commonly occurs in the setting of intracranial hemorrhage, traumatic brain injury, or mass lesions that create increased intracranial pressure on one side. It is a key radiological sign indicating significant pressure differences, often necessitating urgent neurosurgical intervention. It is not a feature of chest, abdominal, or limb injuries.

22. (b) Cranial nerve VI

Several cranial nerves—particularly CN V (auriculotemporal branch of V3), VII (some conchal innervation), IX (minor contributions), and X (auricular branch)—provide sensory innervation to parts of the external ear and external auditory canal. Cranial nerve VI (the abducens nerve) strictly innervates the lateral rectus muscle of the eye for abduction of the eyeball. It has no role in cutaneous innervation of the auricle or ear canal, thus it does not supply the external ear.

23. (a) Long term patency rates are more than 98%

The LIMA is preferred for bypassing the LAD because of its exceptionally high long-term patency—often reported above 90%, and sometimes cited near 95–98%. It rarely develops significant atherosclerosis, making it superior to venous grafts over many years. While proximity to the LAD and surgical familiarity are advantages, the standout benefit is its durability. In reality, atherosclerosis can occur but is quite rare. Harvesting is somewhat demanding but well worth the superior graft longevity for coronary artery bypass.

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24. (b) Right chest drain of size 8-14 Fr

A large or symptomatic primary pneumothorax, especially in an older smoker, often warrants chest tube (intercostal) drainage rather than simple aspiration or conservative management. Inserting a tube thoracostomy (8–14 French) allows continuous removal of intrapleural air and re-expansion of the lung. Oxygen supplementation helps, but alone is not sufficient in an acute, severe presentation. Mechanical ventilation without securing the air leak could worsen the pneumothorax if positive pressure is applied. Thus, a properly placed chest drain is the standard.

25. (b) It is a painless condition

A felon is a deep infection of the pulp of the fingertip, enclosed by fibrous septa. Patients typically present with throbbing pain, swelling, and redness, making it anything but painless. Due to the tight compartments of the fingertip, pressure builds quickly, causing significant discomfort. Treatment involves prompt incision and drainage to relieve pressure and remove infected material. Diabetics are at increased risk of such hand infections due to impaired immunity and microvascular compromise.

26. (b) Distal femur

Osteosarcoma, a primary malignant bone tumor, most frequently arises near the metaphyses of rapidly growing bones in adolescents and young adults. The area around the knee joint—specifically the distal femur and proximal tibia—represents the single most common location. Classic presentations include local pain, swelling, and sometimes pathologic fractures. Proximal humerus is also a known site but less common than the distal femur. Early recognition and multidisciplinary management are essential for optimal outcomes.

27. (a) Emergency surgery for intestinal obstruction

application if rotation can be accomplished, or proceeding to vacuum extraction in selected cases (where moderate rotation is feasible). If these measures fail or circumstances are unfavorable, Caesarean section is done. Directly applying forceps to an unrotated, deeply transverse head is generally contraindicated because it risks trauma without effectively resolving the malposition.

55. (b) Complete breech with sacroanterior position

External cephalic version (ECV) success is more probable when the fetus is non-engaged in breech, there is adequate amniotic fluid, and especially if the breech is 'frank' (legs extended) and mobile. A complete breech with sacroanterior position can be more difficult to turn because the limbs and torso configuration may impede rotation, and sacroanterior alignment sometimes indicates deeper engagement. Hence, (b) is the scenario in which ECV is less likely to succeed compared to the other listed conditions.

56. (a) Day 6

After fertilization in the fallopian tube, the developing blastocyst typically reaches the uterine cavity around day 4–5 and implants into the endometrium about day 6–7. This process of embedding in the uterine lining is critical for establishing the placental circulation. Day 10 or later would be abnormally delayed. Hence, in normal embryological timing, day 6 is widely recognized as the approximate day of implantation.

57. (a) During division and ligation of the round ligaments

Ureteral injury in hysterectomy often happens near where the ureter courses close to the uterine artery (within the cardinal ligament), the uterosacral ligament, or during clamping of the infundibulopelvic ligaments. It can also occur at the lateral vaginal fornices when detaching the cervix and upper vagina. By contrast, dividing the round ligaments (anterior structures) typically poses minimal risk to the ureters, which pass more posteriorly within the broad ligament. Thus, (a) is the step where ureteral injury is least likely.

58. (c) Reduction in the incidence of institutional delivery

Antenatal care (ANC) and its widespread promotion have led to documented reductions in maternal mortality, perinatal mortality, and maternal morbidity—primarily by identifying high-risk cases earlier and ensuring prompt interventions. It has also increased awareness and utilization of healthcare facilities. Consequently, more women opt for institutional deliveries (hospital or maternity centers), not fewer. Hence, the incidence of institutional deliveries has actually increased (not decreased) with better ANC programs, making (c) the incorrect statement.

59. (d) Phase of expulsion

The active phase of the first stage of labor on a partograph is classically divided into: (1) the acceleration phase (cervical dilation begins to rapidly pick up), (2) the phase of maximum slope (the steepest rate of cervical dilation), and (3) the deceleration phase (cervical dilation rate slows as full dilation approaches). "Phase of expulsion," however, corresponds to the second stage of labor (delivering the fetus) and does not belong to the first-stage active-phase subdivisions on the partograph.

60. (d) Conical cervix with round external os

In a woman who has previously delivered vaginally, the perineum may be lax with or without scars, the introitus often appears more patulous, and the abdominal wall may show striae. Carunculae myrtiformes are residual tags from healed hymenal tissue often seen after childbirth. By contrast, a conical cervix with a round external os is typically indicative of nulliparity (never having given birth). Parous cervices typically appear more cylindrical and the external os is slit-like or irregular.

61. (c) Maternal respiratory rate

A standard (WHO) partograph monitors key parameters during labor, including time (in hours), cervical dilatation (the cervicogram), fetal heart rate, contractions (frequency, intensity, duration), maternal pulse, blood

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34. (a) Iatrogenic pneumothorax

An immediately recognized complication of subclavian vein cannulation is an iatrogenic pneumothorax. Air enters the pleural space, causing absent breath sounds and a hyper-resonant or tympanitic note on percussion. Patients often present with sudden onset of breathlessness or respiratory distress. While tension pneumothorax can develop if intrapleural pressure continues to rise and shifts mediastinal structures, the most direct and typical initial event from a misplaced needle is a simple iatrogenic pneumothorax, making option (a) the most likely diagnosis.

35. (d) Navicular

Kohler's disease is an osteochondrosis (avascular necrosis) affecting the tarsal navicular bone in children. Though the exact etiology is uncertain, compromised blood supply to the navicular results in localized pain and tenderness on the dorsum of the foot, sometimes with limping. It differs from Kienbock's disease (lunate), Panner's disease (capitellum), and Freiberg's disease (metatarsal head). Early recognition and appropriate management (often conservative) can help resolve symptoms as revascularization eventually occurs in many pediatric cases.

36. (c) Cultures often show Gram positive Staphylococci

Pyoderma gangrenosum is a neutrophilic dermatosis that typically presents with painful ulcers having violaceous, undermined borders. It is frequently associated with systemic disorders such as inflammatory bowel disease or arthritis, reflecting an altered immune reactivity. Although its name implies a bacterial cause, most lesions are either sterile or do not show the organisms typically grown in simple pyogenic infections. It usually responds favorably to immunosuppressive therapy (e.g., steroids). Therefore, saying cultures "often" reveal staphylococci is incorrect.

37. (c) Stoppa's repair

Tissue repair techniques use the patient's own tissues (fascia and muscle) to reinforce the inguinal canal without prosthetic mesh. Bassini's, Shouldice, and Desarda repairs all rely on suturing or reconfiguring local structures to strengthen the posterior wall. By contrast, Stoppa's repair is a "giant prosthetic" preperitoneal mesh placement—an early form of laparoscopic or open mesh-based repair. Hence, Stoppa's repair is not a "pure tissue" repair but a prosthetic mesh technique, making it the correct "NOT" choice.

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38. (d) Tissue separating meshes

When placing mesh in direct contact with bowel or intra-abdominal contents (intraperitoneal onlay), surgeons use "tissue-separating" or "composite" meshes. These have a barrier layer on the visceral side to minimize adhesions to intestines and a porous or knit layer on the parietal side to facilitate ingrowth. Standard lightweight or heavy porous meshes without a protective surface risk excessive adhesions and fistula formation. Absorbable meshes alone may not provide lasting reinforcement. Thus, "tissue separating" meshes are specifically recommended.

39. (d) It involves pineal gland

Multiple Endocrine Neoplasia type 1 (MEN-1) is classically characterized by tumors or hyperplasias of the parathyroid glands, endocrine pancreas (e.g. gastrinomas, insulinomas), and pituitary gland (the "3 Ps"). It does not typically involve the pineal gland. Patients often present with hyperparathyroidism, peptic ulcers from gastrin overproduction, and pituitary adenomas. Genetic testing can reveal a mutation in the MEN1 gene (menin). The pineal gland is not part of the traditional MEN-1 tumor triad, hence (d) is incorrect.

40. (d) National medical library

Major recognized electronic databases that clinicians and researchers frequently use include PubMed (supported by the U.S. National Library of Medicine), Embase (Elsevier's biomedical database), and the Cochrane Library (systematic reviews and evidence-based resources). "National medical library" as phrased here is not a standard name of an international or well-known platform—though the "National Library

of Medicine" does exist, it is typically referenced in the context of PubMed or MEDLINE. Thus, option (d) is not an established, specific electronic site.

41. (a) It is needed only in selected complicated pregnancies

Pre-conception counseling is beneficial for all women (and partners) who are planning a pregnancy, not just those with known complex medical issues. Identifying and modifying risk factors (nutritional, genetic, environmental, or medical) before conception can lower maternal and fetal complications. As an essential component of preventive medicine, it improves outcomes by allowing interventions such as optimizing chronic disease management, advising on folic acid, and offering genetic counseling when appropriate. Thus, limiting it "only" to complicated pregnancies is incorrect.

42. (a) 1 and 3

A reactive Non-Stress Test (NST)—where the fetal heart rate appropriately accelerates with fetal movements generally implies good fetal well-being (statement 1). The test is known for a very low false negative rate (it rarely misses significant fetal compromise), but it has a relatively high false positive rate (statement 3). NST specifically looks at fetal heart rate reactivity in relation to movements, not merely "fetal breathing" (so 2 is incorrect). Typically, NST is performed later in the third trimester, rather than starting at 20 weeks.

43. (c) Multiparity

Endometrial hyperplasia results from prolonged unopposed estrogen (without adequate progesterone). Common risk factors include obesity, diabetes, estrogen therapy, tamoxifen use, nulliparity, early menarche, and late menopause. In contrast, multiparity offers intervals of high progesterone during pregnancies, reducing continuous estrogenic stimulation to the endometrium. Therefore, having multiple pregnancies (multiparity) is protective against endometrial hyperplasia and related malignancy.

44. (a) 3rd postpartum week

In a non-breastfeeding postpartum woman, ovulation may resume as early as 3 weeks after delivery. Guidelines typically recommend initiating contraception around the 3rd postpartum week (21 days) to prevent unintended pregnancy. Lactation can delay ovulation, but in non-lactating individuals, fertility can return quickly. Therefore, to ensure adequate protection, starting birth control by the 3rd postpartum week is advised, provided there are no other contraindications (e.g., postpartum VTE risk factors for combined pills).

45. (d) 1 and 3

The Pearl Index calculates contraceptive failure rate based on the number of unintended pregnancies per 100 woman-years of exposure. Essentially, it tracks "pregnancy rate" (i.e., how many pregnancies occur) in a standardized time frame of "hundred woman-years." It does not typically incorporate abortion rate nor measure per thousand woman-years. So the two relevant parameters here are the "pregnancy rate" and the "hundred woman years" yardstick, matching statements 1 and 3.

46. (b) Cyclical menstrual bleeding

If an Intrauterine Device (IUD) perforates the uterus (a serious complication), if there is pregnancy concurrent with the device, or if a pelvic infection (such as salpingitis) worsens or persists, removal of the IUD is indicated. However, merely having cyclical bleeding—which is expected monthly—does not in itself constitute an indication for removing a properly placed IUD. Some women do experience heavier or more painful periods initially, but routine cyclic menses alone is not a valid reason for IUD removal.

47. (d) During cesarean section

Insertion of an IUD is contraindicated in confirmed or suspected pregnancy, active trophoblastic disease (gestational trophoblastic neoplasia), and often in severe dysmenorrhea (because it may worsen pain or bleeding). However, postpartum IUD insertion, including immediate postpartum insertion during

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cesarean delivery, is actually a recognized and acceptable practice if no signs of infection or other contraindications exist. Therefore, (d) "During cesarean section" is not a true contraindication—many programs even encourage IUD insertion at that time.

48. (b) Breast feeding

The progestin-only pill (mini pill) is often preferred in lactating women, as it does not reduce milk supply as much as combined oral contraceptives with estrogen. Pregnancy is a clear contraindication. A history of certain breast cancers can also be a concern because some tumors are hormone-sensitive. While severe thromboembolic disease is more commonly an issue with estrogen-containing pills, caution is still advised with any hormonal method. Nevertheless, breast feeding itself is absolutely not a contraindication—hence (b) is correct.

49. (c) Pomeroy's method

The Pomeroy (or modified Pomeroy) method is widely used for tubal ligation in India and many other countries because it is straightforward, relatively quick, and has a high success rate. It involves creating a loop of the fallopian tube, ligating it, and then excising a small segment. The Government of India's guidelines have long favored this approach for female sterilization given its simplicity and reliability. Uchida, Irving, and Madlener methods are less frequently employed compared to the Pomeroy technique.

50. (c) 1, 2 and 3

Under the updated MTP rules, doctors generally need recognized qualifications or relevant experience in Obstetrics and Gynaecology—namely, a diploma or degree in OBG or a suitable training record (e.g., assisting a required number of procedures). Assisting in at least 15 MTPs at an approved facility and having completed at least three months of house-surgeon training in OBG also fulfills these criteria. Laparoscopic surgery training (six months) is not specifically required for performing standard MTPs, so statement 4 is extraneous.

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51. (c) Inguinal ligament

Key uterine supports include the pelvic diaphragm (levator ani), the cardinal (Mackenrodt's) ligaments, the uterosacral ligaments, the pubocervical ligament, and the endopelvic fascia. These structures stabilize the uterus and help prevent its descent. The inguinal ligament, however, runs from the anterior superior iliac spine to the pubic tubercle and is not involved in supporting the uterus. Therefore, among the listed structures, the inguinal ligament does not function as a uterine support.

52. (b) COVID-19 virus is not teratogenic

According to current data and ICMR guidelines, while COVID-19 can complicate pregnancy in various ways, there is no clear evidence that it is teratogenic (i.e., causing fetal malformations). Nor is there a standard recommendation that COVID-19 infection per se warrants medical termination of pregnancy. Although more research is ongoing, existing evidence does not show a direct link to higher rates of early miscarriage or consistent fetal growth restriction solely from SARS-CoV-2 infection.

53. (b) Pregnant women with heart disease are at higher risk

Pregnancy itself increases the susceptibility to certain infections and complications. Women with coexisting heart disease (or other comorbidities such as obesity or poorly controlled hypertension) are at heightened risk of severe outcomes if they contract COVID-19. By contrast, vaginal secretions do not reliably test positive for the virus, and it is not definitively secreted in breast milk to the extent of discouraging breastfeeding. While COVID pneumonia can be serious in pregnancy, the ICMR highlights comorbidities (including cardiac disease) as a major risk factor.

54. (c) Delivery by application of forceps to the unrotated head

Deep transverse arrest occurs when the fetal head becomes arrested in the transverse position in the mid-pelvis. Management options include attempting manual rotation followed by forceps

Rapid Sequence Induction (RSI) is used to prevent aspiration of gastric contents in patients who are at high risk, such as those presenting with a full stomach or obstructed bowel. Intestinal obstruction is a classic scenario, as stomach contents cannot pass normally and risk of regurgitation is high. RSI involves preoxygenation, use of a rapid-acting induction agent, and immediate neuromuscular blockade with minimal ventilation before securing the airway. Elective surgeries typically do not require full RSI protocols.

28. (b) Pain is on active movement but not on passive movement of muscles

A key clinical indicator of acute compartment syndrome is severe pain that worsens on passive stretching of the muscles within the compartment. Pain on active motion occurs too, but passive stretch typically provokes more extreme pain. Closed fractures (like of the forearm or tibia) are frequently implicated. Prompt fasciotomy is the definitive intervention to relieve pressure, prevent ischemic damage, and avert complications. Volkmann's contracture is a late sequela if compartment pressure is not relieved.

29. (b) Short learning curve

Ultrasound offers several advantages: it lacks ionizing radiation, is relatively inexpensive, portable, and allows real-time (dynamic) imaging of moving structures. However, it is extremely operator-dependent. A significant amount of training is required to interpret images accurately, and results can vary greatly based on the examiner's expertise. Thus, one cannot claim that it has a "short learning curve." In reality, mastering ultrasound often takes considerable time and experience, which is why (b) is not a true strength.

30. (d) 1, 2 and 4

Postmastectomy lymphoedema has become less frequent with the shift toward sentinel lymph node biopsies instead of extensive axillary dissection plus radiotherapy (statement 1). Lymph node metastasis or nodal disruption (statement 2) aggravates lymphatic drainage, increasing lymphedema risk. Oedematous limbs have impaired immunity and are prone to recurrent infections like cellulitis (statement 4). While discomfort can occur, true severe pain is not typically described as "often," so statement 3 is less accurate, making 1, 2, and 4 correct.

31. (d) Diabetes (HbA1c 7.5%)

Major risk factors for venous thromboembolism (VTE) in surgical patients include advanced age, pregnancy (with hypercoagulability), and obesity. These states increase the propensity for clot formation, especially when combined with perioperative immobility. Diabetes mellitus (even poorly controlled) poses many health risks, but it is not classically singled out as a direct or major driver of VTE risk compared to these other factors. Therefore, among the listed options, diabetes with high HbA1c is the least relevant VTE risk factor.

32. (c) Hyperthermia

Massive transfusion can lead to several acute metabolic and hematological derangements. Citrate in stored blood can cause hypocalcemia. Accumulated potassium in older stored blood can cause hyperkalemia when infused rapidly. Coagulopathy results from dilution of clotting factors and platelets. Conversely, "hyperthermia" is not typical. More commonly, large-volume transfusion contributes to hypothermia if blood is not warmed. Hence, "hyperthermia" is the incorrect or least likely complication compared to well-recognized issues of coagulopathy, hypocalcemia, and hyperkalemia.

33. (a) into subcutaneous tissue but not through fascia

Pressure ulcer staging follows established guidelines. Stage III involves full-thickness skin loss, penetrating through dermis into subcutaneous tissue but not yet breaching the underlying fascia or exposing muscle or bone. Stage IV goes deeper, involving muscle, tendon, or bone. Stage II is partial thickness involving epidermis and/or dermis. This distinction is vital for wound care, as Stage III often requires more advanced interventions like debridement and pressure relief but lacks the exposed bone or extensive tissue loss of Stage IV.

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pressure, temperature, and sometimes urine output/analysis (checking for protein, ketones, etc.). Maternal respiratory rate is not typically recorded on the classic partograph. Though respiratory assessment can be vital in some clinical circumstances, it is not one of the standard, routinely charted parameters of the traditional partograph.

62. (d) 1, 2 and 3

A properly filled partograph tracks multiple details: the cervicogram (progressive cervical dilatation), uterine contraction frequency and duration, fetal heart rate, maternal vitals, and the color and consistency of amniotic fluid (liquor). Identifying meconium-stained or clear liquor is important to assess fetal well-being. Hence, it provides all three listed components—color of liquor, contractions (with duration/frequency), and cervical dilation—making (d) the best choice.

63. (a) 1 and 3

Surgeons identify the ureter intraoperatively by its characteristic translucent ("transparent tubular") form and the longitudinal blood vessels coursing along its surface. It often appears pale or whitish but "glistening" can be variable. Crucially, vessels run parallel or longitudinally, not circumferentially. Therefore, statements 1 and 3 are key features, while statement 4 ("circumferential vessels") is incorrect, and 2 (pale glistening) may be partly true but is not the classic hallmark taught for definite ureter identification.

64. (b) Pelvic adhesions

HSG, which involves injecting contrast into the uterine cavity and fallopian tubes under fluoroscopy, is excellent for assessing tubal patency and can reveal uterine cavity abnormalities (including Asherman syndrome's intrauterine synechiae). It can also provide some detail suggesting congenital uterine anomalies (e.g., septate vs. bicornuate). However, pelvic adhesions outside the tubes/uterus—e.g., peri-ovarian or peritubal adhesions—are not well-visualized by this method, making (b) "pelvic adhesions" the condition for which HSG is least helpful.

65. (b) 1, 2 and 4

Trichomonas vaginalis commonly presents with a frothy, greenish vaginal discharge and a raised vaginal pH (often >4.5). "Strawberry spots" (punctate hemorrhages) on the cervicovaginal mucosa are also a classic finding. In contrast, "clue cells" (statement 3) are characteristic of bacterial vaginosis caused by Gardnerella vaginalis, not Trichomonas. Therefore, 1, 2, and 4 correctly describe Trichomonas vaginitis.

66. (a) Ca.125

CA-125 (Cancer Antigen 125) is the most commonly used tumor marker in epithelial ovarian cancer. Elevated CA-125 can assist in both diagnosis and monitoring response to treatment, though it is neither perfectly sensitive nor specific. Other markers have different associations: Alpha-fetoprotein (AFP) is classically associated with yolk sac (endodermal sinus) tumors; Beta-hCG with choriocarcinomas and germ cell tumors producing syncytiotrophoblast; LDH is often elevated in dysgerminoma.

67. (c) Transformation zone

The transformation zone (also called the squamocolumnar junction) is where the original squamous epithelium of the ectocervix meets the columnar epithelium of the endocervical canal. This area is particularly susceptible to oncogenic changes triggered by high-risk Human Papillomavirus (HPV) infection, making it the most common site for the origin of cervical neoplasias. Hence, the majority of cervical cancers (especially squamous cell carcinomas) arise within this transformation zone rather than purely on the ectocervix or endocervix.

68. (d) Dehydroepiandrosterone

The human placenta is known to produce multiple hormones and proteins, including estrogens (like estriol), progesterone, hCG, CRH, and PAPP-A. However, dehydroepiandrosterone (DHEA) is primarily an adrenal (fetal/adult)

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prothrombin time/INR, ascites, and hepatic encephalopathy. Serum creatinine is not part of the traditional CTP score, though creatinine is used in the MELD (Model for End-Stage Liver Disease) score. CTP focuses more on synthetic function (albumin, bilirubin, coagulation status) and clinical manifestations (ascites, encephalopathy). Therefore, "Serum creatinine" is the variable that is not included in the CTP criteria.

14. (a) ERCP

"Chain of Lakes" describes the beaded appearance of the pancreatic duct seen in chronic pancreatitis, where multiple strictures and dilatations create a segmented, sacculated outline. Endoscopic Retrograde Cholangiopancreatography (ERCP) is the classic diagnostic test revealing these characteristic ductal changes. While CT scan and ultrasound can show pancreatic abnormalities, ERCP provides the most detailed view of the ductal anatomy. Plain X-ray of the abdomen generally cannot depict the pancreatic duct in such detail, and ultrasound is operator-dependent for duct assessment.

15. (c) Treatment is with oral antibiotics alone

Pyogenic liver abscesses typically present with fever, malaise, anorexia, and right upper quadrant pain (option a). Certain populations—elderly, diabetics, and immunocompromised—are at higher risk (option b). Common organisms include Streptococcus milleri and Escherichia coli (option d). Management almost always goes beyond oral antibiotics alone. Percutaneous drainage (or sometimes surgical drainage) combined with appropriate broad-spectrum intravenous antibiotics is crucial to achieve source control. Hence, the statement that treatment relies solely on oral antibiotics is incorrect.

16. (b) Inguinal hernia

In laparoscopic inguinal hernia repairs (such as TAPP or TEP), surgeons may encounter multiple small defects in the transversalis fascia or posterior inguinal wall—colloquially described as "Swiss cheese defects." These tiny openings can allow abdominal contents to bulge out separately from the main hernia sac. They must be recognized and covered by the mesh to prevent recurrence. Ventral, obturator, or femoral hernias have different anatomical locations and presentations, so "Swiss cheese defects" are particularly noted in inguinal hernia repairs.

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17. (b) 2 and 3 only

Splenic artery aneurysms often remain asymptomatic until rupture, when they can present with sudden, life-threatening hemorrhage. If large, they may occasionally produce a detectable bruit or thrill in the left upper quadrant. However, they more commonly occur in the distal portion of the splenic artery rather than the "main trunk" near its origin. Therefore, statement 1 is incorrect, whereas statements 2 and 3 correctly describe their possible clinical features (palpable thrill, mostly asymptomatic until rupture).

18. (d) Pain in right iliac fossa in perforated peptic ulcer

Valentino's syndrome describes referred pain from a perforated peptic (often duodenal) ulcer that tracks down into the right lower quadrant, mimicking appendicitis. The peritoneal irritation in the region of the retroperitoneal structures leads to local inflammatory changes that manifest with right iliac fossa pain. This can cause confusion with common causes of right lower abdominal pain (like appendicitis). Other choices involve different sites of referred pain that do not match the classic definition of Valentino's syndrome.

19. (c) acute bacterial infection of ascites

Spontaneous bacterial peritonitis (SBP) typically occurs in patients with cirrhosis and ascites, where bacteria from the gut translocate across the intestinal wall into the ascitic fluid, leading to infection without a clear intra-abdominal surgically correctable source. Unlike secondary peritonitis from gastrointestinal perforations (e.g., peptic ulcer, duodenal stump blowout) or pelvic infections, SBP stems primarily from acute bacterial infection of pre-existing ascites. Early diagnosis and prompt antibiotic therapy

(1, 2, and 3) represent recognized diagnostic elements of PCOS, making option (d) correct.

76. (d) 1, 2 and 3

Pelvic organ prolapse can distort the normal anatomy of the bladder and urethra, leading to various lower urinary tract symptoms (LUTS). Women may experience difficulty initiating urination, incomplete bladder emptying, and irritative symptoms such as urgency and frequency. All listed symptoms—difficulty in passing urine, incomplete emptying, and urgency/frequency—can be associated with significant prolapse, so 1, 2, and 3 are correct.

77. (c) 1 and 2 only

A painful, unilateral swelling in the posterolateral vulvar region of a reproductive-age woman often indicates a Bartholin's gland cyst or abscess. Definitive management of an abscess can involve drainage and marsupialization (or Word catheter placement) if recurrent or large. While Neisseria gonorrhoeae can be a cause, the most common isolated organism in Bartholin's abscesses overall is often Escherichia coli, making statement 3 (gonococcus is the most common) less accurate. Therefore, statements 1 and 2 are correct.

78. (b) The fundal height reduces further

After the placenta separates, the uterus often contracts into a firmer, globular shape and may actually appear to rise slightly in the abdomen. A classic sign is lengthening of the cord with a small gush of blood, and sometimes a bulge is visible suprapubically as the placenta descends into the lower segment. The statement that "the fundal height reduces further" is not typical; rather, clinicians often note a higher fundal level once the placenta dislodges from the uterine wall.

79. (a) 1 and 3 only

In a rape examination protocol, providing emergency contraception (the "morning-after pill") is standard if the victim is at risk of unwanted pregnancy, and offering HIV testing and prophylaxis for STIs is also advised. However, an internal (vaginal) examination must be done only with the victim's informed consent and is not mandated in every jurisdiction if the victim declines. Hence, statement 2 ("must be performed") is not universally correct as an absolute rule, whereas 1 and 3 are routinely practiced.

80. (b) 1, 3, 2, 5, 4 and 6

In a typical vertex presentation with the head initially in an occipito-lateral position, the main steps are: (1) Engagement, (3) Flexion of the fetal head, (2) Internal rotation to bring the occiput anterior, (5) Crowning (as the head reaches the pelvic outlet), (4) Restitution (the slight realignment of the head after it emerges), and finally (6) External rotation (to allow delivery of the shoulders). Thus, the correct chronological order is $1 \rightarrow 3 \rightarrow 2 \rightarrow 5 \rightarrow 4 \rightarrow 6$.

81. (d) 1, 2 and 3

An ideal disinfectant should destroy or inactivate a wide range of pathogens (broad spectrum), act swiftly to reduce microbial count (fast acting), and be safe for users and the environment (non-toxic). Additional desirable attributes often include water solubility, low cost, and stability over time. Among the options, (d) 1, 2, and 3 captures all these essential properties.

82. (d) 1, 2 and 3

Lifestyle modifications that lower blood pressure include reducing salt (sodium) intake, maintaining a healthy body weight (thus "controlling weight for age"), and ensuring adequate dietary potassium (often by increasing fruit and vegetable consumption). Each of these contributes to better blood pressure control and helps reduce the risk of developing hypertension.

83. (c) 1, 2 and 3

A normal chromosomal complement (karyotype) underlies typical human development (statement 1). Genetic screening (statement 2) can detect carriers or early disease risk, thus aiding in preventive strategies. Lastly, health outcomes result from the interplay of genes and environment (statement 3); given optimal

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1. What is the correct order of the normal phases of wound healing?
   (a) Proliferative phase → Haemostatic phase → Inflammatory phase → Remodelling phase
   (b) Haemostatic phase → Inflammatory phase → Proliferative phase → Remodelling phase
   (c) Destructive phase → Proliferative phase → Remodelling phase → Inflammatory phase
   (d) Remodelling phase → Proliferative phase → Destructive phase → Inflammatory phase

2. All of the following are risk factors for an increased risk of wound infection EXCEPT:
   (a) Obesity
   (b) Hypertension
   (c) Jaundice
   (d) Cancer

3. Systemic Inflammatory Response Syndrome (SIRS) is characterized by all of the following EXCEPT:
   (a) Hyperthermia (>38°C)
   (b) Platelet count (<1,00,000/mm^3)
   (c) Tachypnoea (≥20/min)
   (d) Hypothermia (<36°C)

4. Gentleman of 56 years underwent laparoscopic left hemicolectomy for diagnosed left colonic carcinoma. Histopathology revealed the tumour to be invading submucosa and muscularis propria. Among the 16 regional lymph nodes harvested, 2 were positive for malignant deposits. His staging as per AJCC will be:
   (a) T1, N1, M0
   (b) T2, N1, M0
   (c) T1, N0, M0
   (d) T2, N1, M1

5. All of the following are hormonal agents used in treatment of cancer EXCEPT:
   (a) Anastrazole
   (b) Irinotecan
   (c) Cabergoline
   (d) Leuprolide

6. Which of the following statements regarding lymphoedema are correct?
   1. Patients experience constant dull ache and even severe pain sometimes
   2. Manual lymphatic drainage has a role
   3. Primary lymphoedema is caused by congenital lymphatic dysplasia
   4. Nonne Milroy's disease is a type of primary lymphoedema

   Select the correct answer using the code given below:
   (a) 3 and 4 only
   (b) 1 and 2 only
   (c) 1, 2 and 3 only
   (d) 1, 2, 3 and 4

7. Indications for carotid endarterectomy in symptomatic patients are all of the following EXCEPT:
   (a) Hemianopia
   (b) Monocular blindness
   (c) Dysphasia
   (d) Persistent hypertension

8. A policeman of 45 years presented with Lipodermatosclerosis over lower medial aspect of left leg, along with a healed venous ulcer. As per the CEAP (Clinical-etiology-anatomy-pathophysiology) classification his clinical classification will be:
   (a) C4a
   (b) C4b
   (c) C5
   (d) C6

The "pentavalent" (five-in-one) vaccine commonly used in many immunization programs (including India's) combines DPT (Diphtheria, Pertussis, Tetanus) with Hepatitis B and Haemophilus influenzae type b (Hib). This expansion replaced the earlier DPT + Hepatitis B combination, adding Hib protection to reduce severe infections like Hib pneumonia and meningitis in young children.

93. (b) 54.1%

Dependency ratio is calculated as:

$$\text{Dependency Ratio} = \frac{(\text{Population } 0\text{–}14 + \text{Population } 65)}{(\text{Population } 15\text{–}64)} \times 100\%$$

Here, dependents = 391,558,367 + 71,943,390 = 463,501,757.

Working-age population = 856,076,200.

$$\text{Ratio} = \frac{463,501,757}{856,076,200} \times 100 \approx 54.1\%$$

94. (d) It can be administered till 15 days after the first dose of anti-rabies vaccine

Rabies Immunoglobulin (RIG) is given only once, at the start of postexposure prophylaxis, ideally infiltrating as much as possible around the wound; any remainder may be injected intramuscularly at a site distant from vaccine administration. Current WHO guidelines do not recommend a prior skin test for equine RIG, as it can cause delays and is not reliable. However, giving RIG beyond 7 days after the first vaccine dose is generally not advised, let alone up to 15 days, making (d) the incorrect statement.

95. (b) It is a bacteriostatic drug

Bedaquiline is a novel anti-TB medication that specifically inhibits mycobacterial ATP synthase, showing potent bactericidal activity against drug-resistant Mycobacterium tuberculosis. It is known for a long elimination half-life and large volume of distribution, aiding penetration into tissues. Far from being merely bacteriostatic, bedaquiline actively kills actively replicating bacilli, so labeling it "bacteriostatic" is the incorrect statement here.

96. (b) Cervix cancer

Visual Inspection with Acetic Acid (VIA) is a low-cost, feasible screening method for cervical precancerous lesions, especially valuable in low-resource settings. The acetic acid (5%) highlights abnormal areas of the cervix (acetowhite changes) that can be further evaluated. It is not a screening method for lung, oral, or breast malignancies, for which different clinical or imaging-based approaches are used.

97. (b) Disease incidence

Positive and negative predictive values (overall "predictive accuracy") of a screening test are driven by prevalence of the disease in the population (along with test sensitivity and specificity). Incidence (the rate of new cases) does not directly enter the predictive-value formulas. As prevalence rises, the positive predictive value tends to increase, and vice versa. Hence, among the listed factors, "disease incidence" is the one that does not directly determine predictive accuracy.

98. (b) 10 mg per day for 10–14 days

WHO/UNICEF guidelines recommend 10 mg/day of zinc supplementation for infants under 6 months and 20 mg/day for children 6 months and older, for 10–14 days, following an acute diarrheal illness. This supplementation reduces severity and duration of diarrhoea and can decrease the likelihood of recurrence in the short term.

99. (a) It will be cost effective in developing countries for Polio prevention

While combining IPV and OPV can enhance overall immunogenicity and reduce the risk of vaccine-associated paralytic polio, IPV is more expensive than OPV. In resource-limited settings, affordability and logistics often make OPV-only schedules more common historically. Thus, calling the sequential approach "cost effective" in developing countries is generally not correct. Statements about reducing VAPP, preserving humoral plus mucosal immunity, and the fact that IPV does not destroy existing intestinal immunity are correct.

100. (b) 2 lac IU on two successive days

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these dietary toxins rather than bacterial, fungal, or viral etiologies.

116. (a) E. coli

Escherichia coli (E. coli) is widely recognized as the key indicator organism for recent fecal contamination. If water testing detects E. coli, it strongly suggests that fecal material from humans or warm-blooded animals has entered the water supply. Although other coliforms may sometimes indicate contamination, E. coli's presence is particularly indicative of fresh fecal pollution and is a critical parameter in potable water quality testing.

117. (d) 1, 2 and 3

The WHO Global Technical Strategy for Malaria (2016–2030) outlines ambitious targets: a 90% reduction in global malaria mortality rates and case incidence compared to 2015, plus elimination of malaria in at least 35 countries by 2030. These goals guide national malaria programs to scale up prevention, diagnosis, treatment, and surveillance efforts. Thus, all three statements (1, 2, and 3) accurately reflect key GTS objectives.

118. (d) LNG-20 (Mirena)

The Levonorgestrel-releasing intrauterine system (LNG-IUS or Mirena) steadily releases levonorgestrel, producing endometrial suppression and thickening of cervical mucus. This results in extremely low pregnancy rates (around 0.2 per 100 woman-years), reduced ectopic risk (by severely limiting overall conception), and notably decreased menstrual bleeding or even amenorrhea. Copper-based IUDs often lower pregnancy rates but can increase menstrual flow. Progestasert is an older progestin IUD with less widespread use.

119. (c) Eruption of teeth

Around 6–11 months, infants lose the passive protection from maternal antibodies, and complementary feeding begins—potentially introducing pathogens via contaminated solids or liquids. Additionally, exploratory behavior can increase contact with fecal matter if sanitation is poor. Teething, however, is not a direct, proven cause of diarrhea. Though it may coincide with increased mouthing of objects, "eruption of teeth" itself is not a recognized major factor in diarrheal incidence, making (c) the "EXCEPT" choice.

120. (d) 1 and 3

Every year in India, Anti-Malaria Month is observed in June, specifically before or at the very onset of the main monsoon in most regions. The rationale is to mobilize health workers and communities to prepare against malaria ahead of peak transmission, which often rises with heavier rains. The campaign's core objective (Statement 3) is to boost public awareness, encourage preventive measures (like use of mosquito nets), and strengthen participation in vector control activities. Thus, Statements 1 and 3 are correct; Statement 2 is imprecise.

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on a 0–100 scale, and then an average is taken to yield the overall PQLI score. Unlike measures like GNP or per capita income, PQLI focuses on social development and basic quality outcomes rather than pure economic growth. All three statements accurately capture PQLI's essential features.

109. (c) Both YLL and YLD

DALYs combine the years of life lost (YLL) from premature mortality with the years of life lived with disability (YLD). YLL captures fatal outcomes (life cut short), while YLD accounts for nonfatal health conditions that lower one's quality of life. By summing these components, DALYs quantify the overall burden of disease in a population, capturing both mortality and morbidity in a single measure.

110. (d) 1, 2 and 3

Health care delivery indicators gauge the adequacy and distribution of health professionals and facilities. "Population per trained birth attendant" assesses maternal care coverage, "population per health/subcentre" reflects access to primary healthcare infrastructure, and "doctor-nurse ratio" helps evaluate the balance of critical healthcare workforce. All these measures indicate how effectively healthcare services are delivered in a region, thus they are collectively valid healthcare delivery indicators.

111. (d) 1, 2 and 3

The Ottawa Charter for Health Promotion (1986) outlines five main action areas: (1) building healthy public policy, (2) creating supportive environments, (3) strengthening community action, (4) developing personal skills, and (5) reorienting health services. Thus, each of the listed points—healthy public policy, community action, and reorientation of health services—forms part of that framework. Therefore, 1, 2, and 3 accurately represent key strategies in the Ottawa Charter.

112. (c) Z 72.0 – Z 72.5

In ICD-10, Chapter XXI (Factors influencing health status and contact with health services) includes codes for "lifestyle-related problems" within the range Z72 (e.g., Z72.0 for tobacco use, Z72.1 for alcohol use, etc.). Therefore, Z72.0–Z72.5 covers issues like unhealthy diet, physical inactivity, and other lifestyle behaviors. The "U" series codes are typically used for provisional assignments or research, not standard lifestyle codes.

113. (d) 1, 2, 3 and 4

"Airborne transmission" may include both person-to-person via respiratory droplets/aerosols (e.g., influenza, chicken pox) and inhalation of pathogens from environmental or animal sources (as with Q-fever from birthing tissues of infected livestock, or psittacosis from birds). Although influenza is often labeled "droplet," it can spread via fine particle aerosols, too. Chicken pox (varicella) is classically airborne. Q-fever and psittacosis are acquired by inhaling contaminated aerosols from animals. Hence, all four can be considered transmissible via airborne or aerosol routes.

114. (c) Hypertension

The DASH (Dietary Approaches to Stop Hypertension) diet is specifically designed to lower blood pressure. It emphasizes fruits, vegetables, whole grains, low-fat dairy, and reduced saturated fat and sodium intake. Numerous studies have shown DASH can significantly reduce systolic and diastolic blood pressures and is routinely recommended in hypertension management guidelines. It also promotes overall cardiovascular health but is most notably linked to BP control rather than COPD, cancer, or rheumatic heart disease prevention specifically.

115. (a) Naturally occurring toxin

Endemic ascites (also known in some regions as "veno-occlusive disease") often involves chronic consumption of foods contaminated with toxic alkaloids (pyrrolizidine alkaloids) from plants like Crotalaria. These naturally occurring toxins damage hepatic sinusoids and small veins, causing progressive portal hypertension and ascites. While infectious agents produce many other forms of ascites, the specifically termed "endemic" condition is classically linked to

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For children ≥12 months with early xerophthalmia (e.g., X1B, X2), WHO recommends giving 200,000 IU (2 lac IU) of vitamin A immediately and another 200,000 IU the next day. Often, a third dose is given about 2 weeks later if the deficiency is severe or if ocular signs persist. Children under 12 months typically receive half that dose (100,000 IU).

101. (a) Lyssavirus serotype 1

Rabies in humans is classically caused by Rabies virus within the genus Lyssavirus. Of multiple Lyssavirus serotypes, "Serotype 1" is the principal agent for classical rabies worldwide. Other lyssaviruses (e.g., Mokola, Duvenhage, Lagos bat viruses) can occasionally produce rabies-like illnesses but are far less common and generally have distinct geographic or reservoir profiles.

102. (a) Benzathine Benzyl Penicillin

Secondary prophylaxis against rheumatic fever (to prevent rheumatic heart disease) relies on long-acting benzathine benzyl penicillin injections at regular intervals (usually every 3–4 weeks). This ensures consistent elimination of Group A Streptococci (Streptococcus pyogenes) from the throat. Oral penicillin or alternative antibiotics are second-line options when benzathine penicillin is not feasible or if the patient is penicillin-allergic.

103. (a) A 10% relative reduction in risk of premature mortality …

The actual WHO "25 by 25" NCD targets include: a 25% relative reduction in premature mortality from the four major NCDs, a 10% reduction in insufficient physical activity, a 30% reduction in mean population salt intake, a 10% reduction in harmful alcohol use, halting the rise of diabetes/obesity, and more. Thus, stating only a "10%" reduction in NCD mortality is incorrect, as the official target is 25%.

104. (a) 1 and 2 only

Extended sickness benefit under India's ESI Scheme covers certain long-term, debilitating conditions. Among infectious causes, tuberculosis and leprosy are specifically included due to their chronic course and significant morbidity. "Chronic empyema" is not typically listed as one of these officially recognized diseases for extended benefit. Hence, TB (1) and leprosy (2) are included, while chronic empyema (3) is not.

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105. (c) 50%

India's national targets (aligned with reducing indoor air pollution and respiratory ailments) include significantly cutting the proportion of households relying on biomass or other solid fuels for cooking. By 2025, the policy goals include 50% relative reduction in solid-fuel dependence, dovetailing with wider initiatives such as the Pradhan Mantri Ujjwala Yojana aimed at LPG adoption.

106. (d) 1, 2 and 3

Global and national filariasis elimination guidelines typically define "elimination" as reaching very low microfilaria rates (commonly under 1% or around 1–1.5%) and ensuring new cohorts (especially children) remain free of infection markers (e.g. antigenaemia). Additionally, the infection no longer poses a significant public health burden. Hence, all three statements (1, 2 and 3) align with recognized benchmarks for declaring elimination of lymphatic filariasis in a community.

107. (c) Types of vaccines kept

The "hold over time" of cold chain equipment (e.g., vaccine carriers, cold boxes) is the duration for which it can reliably maintain the required temperature range. Factors such as the ambient temperature, the quantity (mass) of vaccine vials or packs inside (which affects the thermal mass), and the condition/number of icepacks (or cold packs) are critical. However, whether one stores OPV, DPT, or another vaccine does not materially change the rate at which the interior warms.

108. (d) 1, 2 and 3

The Physical Quality of Life Index (PQLI) blends three indicators: infant mortality rate, life expectancy at age one (or sometimes at birth), and literacy rate. Each indicator is normalized

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conditions, an individual's genetic potential can be fully expressed in a healthy phenotype. All three statements are therefore valid.

84. (d) It focuses on the development of Referral Service Complex

NITI Aayog (National Institution for Transforming India) replaced the Planning Commission. Its key functions include providing strategic policy and directional inputs to the government, promoting cooperative federalism, offering technical advice, and building state capacities. Developing a "Referral Service Complex" is not one of NITI Aayog's enumerated core functions. Rather, such specific health-system infrastructural developments typically fall under the Ministry of Health & Family Welfare or allied bodies.

85. (d) 2 only (Common source – continuous exposure)

Hepatitis A generally spreads via the fecal–oral route, often through an infected food handler who continuously contaminates food/drink over days to weeks. This creates a "common source-continuous" outbreak (multiple people exposed repeatedly from the same source). A "point source" outbreak would occur if a single, one-time contaminated meal caused simultaneous infection. "Propagated" outbreaks imply person-to-person transmission as in measles or chickenpox. Here, the repeated exposure from the same worker is consistent with a continuous common source.

86. (c) 90%

Specificity = True Negatives ÷ (True Negatives + False Positives). From the table, among those without PTB (200 patients), 20 tested positive (false positives) while 180 tested negative (true negatives). So,

87. (c) 20%

Out of 500 total women, 70% (i.e., 350) had USG. Of these 350, 70 delivered LBW babies.
Hence, 20% is the correct incidence among the USG group.

88. (a) Fresh dark green vegetables

Vitamin K_1 (phylloquinone) is primarily found in dark green leafy vegetables (e.g., spinach, kale, broccoli). Vitamin K_2 (menaquinone) is produced by gut bacteria. By contrast, sunlight exposure is relevant for vitamin D synthesis, citrus fruits are a good source of vitamin C, and foods with polyunsaturated fatty acids help provide essential fats but are not a major source of vitamin K.

89. (d) Making clinical diagnosis

Epidemiology focuses on patterns, causes, and control of diseases in populations. It involves studying trends over time, identifying risk factors, and characterizing syndromes at the population level. The actual clinical diagnosis of an individual patient is the domain of clinical medicine rather than epidemiology. Epidemiological findings may help refine diagnostic criteria or guidelines but do not replace a clinician's role in diagnosing a single patient.

90. (a) Malaria

A "contagious" disease typically spreads via direct person-to-person contact (e.g., scabies through skin contact, trachoma via eye secretions, leprosy through prolonged close contact and droplet spread). Malaria is certainly an infectious disease but not conventionally labeled "contagious," because it requires transmission by the Anopheles mosquito vector. Humans do not pass malaria directly to one another by simple contact.

91. (d) 100 times more

Early in a primary immune response, IgM is the first isotype produced. To drive isotype switching and elicit significant IgG production (especially on first exposure), a substantially higher dose of antigen is needed—commonly cited as up to 100-fold greater than the dose needed to trigger IgM alone. This extra stimulus helps engage T helper cells and the molecular signals required for class (isotype) switching to IgG, which is generally more specific and has higher affinity.

92. (d) Diphtheria, Pertussis, Tetanus, Hepatitis B and Hib

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9. What is true about the management of a corrosive injury of oesophagus?
(a) Early skilled endoscopy is must
(b) Immediate surgery with oesophagectomy is advisable
(c) Broad spectrum antibiotics should be started as soon as possible
(d) Immediate NG tube insertion and gastric lavage should be preformed

10. Which of the statements regarding Salivary gland neoplasms are correct?
1. 80–90% of parotid tumors are malignant
2. 90 % of sublingual gland tumors are malignant
3. 60–70% of submandibular gland tumors are benign
4. Parotid gland is most common site for salivary gland tumors

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

11. A few days following viral fever, a 50 year old female presented with pain in neck, fever, malaise and firm enlargement of both the lobes of thyroid. On investigation thyroid antibodies were normal & serum T4 was high normal. Probable diagnosis is:
(a) Autoimmune thyroiditis
(b) Lymphoma of thyroid
(c) Granulomatous thyroiditis
(d) Riedel's thyroiditis

12. No increased relative risk of invasive breast carcinoma based on histopathological examination of benign breast tissue is for all of the following EXCEPT:
(a) Hyperplasia
(b) Periductal mastitis
(c) Squamous metaplasia
(d) Solitary papilloma of lactiferous sinus

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13. Which of the following statements regarding Paget's disease of nipple are correct?
1. It represents benign pathology of nipple areola complex
2. It is eczema like condition of nipple and areola
3. Erosion of nipple is seen
4. Nipple biopsy is required for definitive diagnosis

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 2 and 4 only

14. A gentleman of 36 years presented with a long history of upper abdominal pain which was periodic and often occurred early morning. For last 3 months, he is having projectile vomiting, which is non bilious, unpleasant in nature with undigested food materials. On examination he appears unwell, dehydrated and seemed to have lost weight. Probably he is suffering from:
(a) Gastric outlet obstruction
(b) Carcinoma stomach
(c) Gastro-oesophageal reflux with oesophagitis
(d) Superior mesenteric artery syndrome

15. A 40 year old female patient presents with colicky abdominal pain associated with episodes of mild diarrhoea for last 6 months accompanied with intermittent fever and weight loss. There are multiple discharging sinuses on perineal examination. The most likely clinical diagnosis in this patient is:
(a) Amoebic colitis
(b) Crohn disease
(c) Ulcerative colitis
(d) Ileocaecal Tuberculosis

16. A gentleman of 48 years was being worked up for hepatocellular function. He had no history or signs of encephalopathy. His serum bilirubin was 5 mg%, serum albumin was 3.9 gm%, International normalized ratio was 1.6. On ultrasound no free fluid was detected inside abdomen. As per Child-Turcotte-Pugh (CTP) classification, he was in:
(a) CTP–A
(b) CTP–B
(c) CTP–C
(d) CTP–D

17. Which of the statements regarding Calot's triangle are correct?
1. Common hepatic duct forms the medial boundary of the Calot's triangle
2. Inferior surface of the right lobe of the liver forms the superior boundary of Calot's triangle
3. Right hepatic artery is usually found as a content of the Calot's triangle
4. Cystic duct and medial border of gall bladder forms the lateral border of Calot's triangle

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

18. Consider the following statements regarding Opportunistic post-splenectomy infections (OPSI):
1. Haemophilus influenzae, Neisseria meningitidis and Streptococcus pneumoniae are the most common causative agents
2. Risk is greatest in the patients who have undergone splenectomy for trauma
3. Risk is greatest within the first 2–3 years following splenectomy
4. Prophylactic vaccination should be done 2 weeks prior to elective splenectomy

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

19. A 48 year old male with the history of chronic duodenal ulcer presented in surgical emergency with the complaints of sudden severe pain in the abdomen. At presentation:
Pulse = 120/m, BP = 90/60 mm of Hg
Abdomen: Tenderness (+), Rigidity (+), Guarding (+)
Respiratory Rate: 20/m
X-ray: Gas under right dome of diaphragm
The probable diagnosis is:
(a) Acute appendicitis
(b) Acute Pancreatitis
(c) Acute Myocardial infarction
(d) Perforation Peritonitis

20. A young sports person presented in surgical emergency with the complaints of severe pain in the groin area, extending into the scrotum and upper thigh. The pain is debilitating and he is not able to exercise. On examination there is tenderness in the region of Inguinal canal and pubic tubercle. He is probably suffering from:
(a) Varicocele
(b) Inguinal hernia
(c) Sportsman hernia
(d) Femoral hernia

21. Ventral hernia includes all EXCEPT:
(a) Epigastric hernia
(b) Para-umbilical hernia
(c) Lumbar hernia
(d) Inguinal hernia

22. Diaphragmatic injury is suspected in a 50 year gentleman with history of blunt abdominal trauma, having a normal chest X-ray. He is best managed by:
(a) Diagnostic peritoneal lavage and proceed
(b) Upper GI contrast study
(c) CECT abdomen
(d) Diagnostic laparoscopy

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23. A 20 years old man had history of pain in the right side of abdomen. His X-ray abdomen AP view shows radio-opaque shadow, which on lateral film falls behind the vertebral column. The probable diagnosis is:
(a) Gall stone disease
(b) Renal Calculus
(c) Calcified mesenteric lymph node
(d) Phlebolith

24. Urinary bladder can be injured in all of the following operations EXCEPT:
(a) Inguinal hernia repair
(b) Hysterectomy
(c) Surgery for rectum
(d) Inguinal lymph node dissection

25. In diffuse axonal injury all are true EXCEPT:
(a) Form of primary brain injury
(b) Seen in high energy
(c) Patient is comatose
(d) CT scan shows pathognomonic finding

26. A 70 years old man on anticoagulants due to some heart disease suffered a minor head injury. One month later he has severe headache with slowly developing neurological signs. The probable diagnosis is:
(a) Extradural haematoma
(b) Acute subdural haematoma
(c) Chronic subdural haematoma
(d) Subarachnoid haemorrhage

27. Regarding Quinsy all of the following are correct EXCEPT:
(a) It is an abscess in the peritonsillar region
(b) Severe trismus is caused by spasm induced by pterygoid muscles
(c) Pus may be seen pointing underneath the thin mucosa in all cases and is diagnostic
(d) In early stage, intravenous broad spectrum antibiotics may resolve it

28. The most common organism causing Acute Otitis media in children is:
(a) Streptococcus pneumoniae
(b) Staphylococcus epidermidis
(c) Escherichia coli
(d) Klebsiella pneumoniae

29. A 50 year old male presented with pain along the left arm and ptosis. His chest X-ray showed soft tissue opacity at the apex of the left lung along with the erosion of the adjacent rib. The probable diagnosis is:
(a) Pancoast lung
(b) Bronchial carcinoma
(c) Lung abscess
(d) Adenocarcinoma of lung

30. Which of the following is NOT true about Dupuytren's Contracture?
(a) Autosomal dominant
(b) Occurs in elderly men
(c) Not familial
(d) Associated with alcoholism, smoking and hypothyroidism

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31. Which of the following statements regarding the flat foot are true?
1. All children below 3 year have flat foot
2. 15% adult have flat foot
3. Painless flexible foot need no treatment
4. Rigid flat foot is a result of tarsal coalition

Select the correct answer using the code given below:
(a) 3 and 4 only
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

32. All of the following are causes of acute red eye EXCEPT:
(a) Conjunctivitis
(b) Keratitis
(c) Acute macular oedema
(d) Acute glaucoma

33. All are true about Vernal conjunctivitis EXCEPT:
(a) Type of allergic conjunctivitis
(b) Itchy eyes with other allergic problems
(c) Cobblestone appearance
(d) Most signs are in lower lid

72. A 22 year old woman comes with complaints of pain and discomfort in vaginal region. On examination there is unilateral tender swelling in the posterior half of labium minus, overlying skin is red and edematous. What is the most probable diagnosis?
(a) Utero vaginal prolapse
(b) Inversion of uterus
(c) Bartholin's abscess
(d) Trichomoniasis

73. A 29 year old woman is noted to have three consecutive first trimester spontaneous abortion. Examination reveals fibroid uterus. Which of the following types of uterine fibroids would most likely lead to recurrent abortions?
(a) Submucosal
(b) Intramural
(c) Subserosal
(d) Cervical

74. A 25 year old infertile woman is noted to have blocked fallopian tube on Hysterosalpingography. Which of the following is the best next step for this woman?
(a) Clomiphene citrate therapy
(b) Gonadotropin therapy
(c) Laparoscopy
(d) Intrauterine insemination

75. The contraceptive choice for a 38 year old woman with chronic hypertension and history of dysmenorrhea and menorrhagia (malignancy ruled out) is:
(a) Copper intrauterine device
(b) Levonorgestrel intrauterine device
(c) Combined oral contraceptive pills
(d) Sterilization

76. Which one of the following drugs does NOT interfere with efficacy of oral contraceptive pills and increase the failure rates?
(a) Ranitidine
(b) Rifampicin
(c) Ampicillin
(d) Barbiturates

77. Which one of the following antihypertensive drugs is NOT safe during pregnancy?
(a) Labetalol
(b) ACE-inhibitors
(c) Alpha-methyl dopa
(d) Nifedipine

78. Tubectomy is commonly performed at which site of fallopian tube?
(a) Ampulla
(b) Infundibulum
(c) Isthmus
(d) Cornua

79. A 60 year old woman presents with postmenopausal bleeding. On endometrial curettage she is diagnosed as endometrial carcinoma. Which one of the following is a risk factor for endometrial cancer?
(a) Multiparity
(b) Oral contraceptive use
(c) Smoking
(d) Diabetes mellitus

80. A 29 year old woman presents in emergency ward with amenorrhea of 6 weeks and pain. Urine pregnancy test shows positive. Examination shows diffuse significant lower abdomen tenderness. The pelvic examination is difficult to accomplish due to guarding. Her Beta-hCG level is 4000 mIU/ml. Transvaginal ultrasound shows no pregnancy in the uterus and no adnexal mass but moderate fluid in abdomen. Which of the following is the next best step?
(a) Repeat Beta-hCG level in 48 hours
(b) Institution of methotrexate
(c) Emergency laparotomy
(d) Wait and watch

81. Global hunger index combines three equally weighted indicators EXCEPT:
(a) Undernourishment
(b) Child underweight
(c) Child mortality
(d) Child morbidity

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(b) 1 only
(c) 2 and 3 only
(d) 1 and 2 only

45. A 25 year old G2P1L1, Rh –ve woman presented at 30 weeks gestation to the antenatal clinic, the indirect Coomb's test (ICT) was found to be positive. What would be the next line of management?
(a) Anti D to be given
(b) ICT titers to be closely monitored at weekly intervals
(c) Amniocentesis for estimation of bilirubin by Liley's chart is to be done
(d) Baby is to be delivered as soon as possible

46. Given below are the Obstetric maneuvers and their indications. Which one of the following is correctly matched?
(a) McRobert's maneuver – After coming head of breech
(b) Lovset's maneuver – Delivery of foot in breech
(c) Pinard's maneuver – Delivery of extended arm
(d) Ritgen's maneuver – Controlled delivery of fetal head

47. The Maternal serum α-fetoprotein level is elevated in all EXCEPT:
(a) Down syndrome
(b) Neural tube defect
(c) Intra uterine death
(d) Omphalocele

48. Which one of the following statements regarding Bartholin's glands is NOT true?
(a) They are situated in superficial perineal pouch
(b) Duct opens at the junction between anterior one third and posterior two third between hymen and labium minus
(c) Gonococci is the most common causing Bartholin's abscess
(d) The duct is lined by columnar epithelium

49. An 18 year old unmarried girl comes with complaints of heavy, prolonged bleeding during menses. Which among the following investigations is NOT usually advised?
(a) Urine pregnancy test
(b) Ultrasound uterus and adnexa
(c) Coagulation profile
(d) Dilatation and curettage

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50. Which one of the following is true about Basal body temperature?
1. Biphasic pattern
2. Increase in the level of progesterone and norepinephrine
3. Temperature falls by 0.5°C after ovulation
4. It can predict ovulation precisely

Select the correct answer using the code given below:
(a) 1 and 3
(b) 1 and 2
(c) 1 and 4
(d) 2 and 3

51. Consider the following statements regarding infertility:
1. Endometrial biopsy provides information regarding ovulatory factor
2. Both tubal and peritoneal factors can be assessed at laparoscopy
3. Unexplained infertility may be due to luteal phase defect

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

52. Which one of the following about primary dysmenorrhea is NOT true?
(a) Confined to adolescent
(b) Always confined to ovulatory cycles
(c) Pain increases following pregnancy and delivery
(d) Pain is related to uterine hypoxia

110. Which one of the following Ministries controls the Integrated Child Protection Scheme (ICPS)?
(a) Ministry of Health and Family Welfare
(b) Ministry of Women and Child Development
(c) Ministry of AYUSH
(d) Ministry of Human Resource Development

111. Which of the following is a contraindication for BCG vaccination in a newborn?
(a) Low birth weight
(b) History of Tuberculosis in mother
(c) Prematurity
(d) HIV infection-symptomatic

112. Rashtriya Bal Swasthya Karyakram (RBSK) attempts to identify all of the following deficiencies in children in the age group 0–18 years EXCEPT:
(a) Severe acute malnutrition
(b) Zinc deficiency
(c) Vitamin A deficiency
(d) Vitamin D deficiency

113. Children of severe acute malnutrition discharged from Nutritional Rehabilitation Centres (NRCs) should be observed in the community by an Anganwari Worker (AWW) as per which one of the following schedules?
(a) Once a week for first month and then twice weekly
(b) Twice weekly in first month and then once a week
(c) Once a week for first month and then once fortnightly
(d) Twice weekly in first month and then once fortnightly

114. The facilities provided to pregnant women under the Janani Shishu Suraksha Karyakram are all EXCEPT:
(a) All pregnant women delivery in public health institution to have absolutely free and no expense delivery including cesarean section
(b) Free diet up to 3 days during normal delivery
(c) Free diagnosis and free blood whenever required
(d) Complications during ANC, PNC are not covered

115. All of the following drugs are effective for treatment of human reservoir for hookworm infection in single dose EXCEPT:
(a) Piperazine
(b) Albendazole
(c) Levamisole
(d) Pyrantel

116. A woman delivers a healthy baby with weight 2.2 kg at the time of birth. What measures are to be taken?
1. The baby should be exclusively breast fed for first six months
2. The vaccination with OPV and BCG should be delayed till the baby is 2.5 kg of weight
3. Baby should be kept with mother and kangaroo care to be given

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 1 and 3 only
(d) 2 and 3 only

117. LNG-20 (Mirena) is a third generation intra uterine device. What are the advantages of its use?
1. Low uterine pregnancy rates
2. Prevents anemia
3. Long effective life of 10 years
4. No effect on incidence of ectopic pregnancy

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

118. Open vial policy applies to which one of the following vaccines?
(a) BCG
(b) Measles
(c) Hep B
(d) JE

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61. Which of the following is NOT an ideally suited condition for use of ring pessary in case of uterine prolapse?
(a) Late pregnancy
(b) Puerperium
(c) Patient unfit for surgery
(d) Patient's unwillingness for surgery

62. Labour is called normal if it fulfills following criteria EXCEPT:
(a) Vaginal breech delivery
(b) Vaginal delivery with episiotomy
(c) Vertex presentation
(d) Spontaneous onset at term

63. Which one of the following methods is NOT used for cervical cancer screening?
(a) Pap smear
(b) VIA
(c) VILI
(d) Cervical biopsy

64. Consider the following regarding the use of Magnesium Sulphate:
1. Used as tocolytic
2. As neuroprotective agent
3. Used in management of postpartum eclampsia

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 1 and 3 only
(d) 2 and 3 only

65. Which one of the following is NOT a common cause of recurrent abortions?
(a) Maternal diabetes
(b) TORCH group of infections
(c) Antiphospholipid syndrome
(d) Chromosomal abnormality

66. Contraindications to Uterine Cerclage for Incompetent os are all EXCEPT:
(a) Previous history suggestive of abortion due to incompetent os
(b) Ruptured membrane
(c) Bulging membrane
(d) History of vaginal bleeding

67. The most common cause of early spontaneous abortion is:
(a) Chromosomal abnormality
(b) Infection
(c) Endocrine disorder
(d) Teratogens

68. Cause of Fetal growth restriction may be:
1. Chromosomal abnormality
2. Congenital abnormality
3. Abnormal cord insertion

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 1 and 3 only

69. Which one of the following regarding fetal growth restriction is NOT true?
(a) Daily fetal movement count is advised
(b) Biophysical profile is done
(c) Delivery always at 34 weeks
(d) Umbilical artery Doppler studies are done

70. Which one of the following statements regarding contraception is NOT true?
(a) Vaginal ring is a barrier method
(b) Implanon is a hormonal contraceptive
(c) Copper T can be used as post coital contraception
(d) Copper T can be inserted just after delivery

71. A 26 year old P_2L_2 has just had delivery. What are the contraceptive choices she has at present?
1. Post placental insertion of IUCD
2. Post partum ligation
3. Oral contraceptive pill
4. Lap ligation

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1, 2 and 4
(c) 2 only
(d) 1 and 3

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53. Consider the following statements regarding diameters of a normal female pelvis:
1. AP diameter is the shortest diameter at brim
2. Oblique diameter is the largest diameter of inlet
3. Diagonal conjugate cannot be directly measured

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 1 only
(d) 2 only

54. Which of the following is NOT a characteristic clinical feature of Bacterial Vaginosis?
(a) Vaginal pH ≥ 5
(b) Thick curdy discharge
(c) Amine odour in 10% KOH test
(d) Clue cells

55. Which of the following are the vaccines for prevention of cervical cancer?
1. Cervarix
2. Gardasil
3. T-dap
4. Influenza

Select the correct answer using the code given below:
(a) 1 and 3
(b) 2 and 3
(c) 1 and 2
(d) 2 and 4

56. Consider the following statements regarding Carcinoma Cervix:
1. Clinical staging is done
2. Treatment if provided in stage I leads to survival rate of 80–90%
3. Surgery is preferred in young women with stage III disease
4. HPV virus is considered to be the causative agent

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1, 2 and 4 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

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57. Which one of the following is NOT a mandatory procedure for FIGO staging of Carcinoma cervix?
(a) Pelvic examination
(b) Biopsy
(c) Ultrasound abdomen
(d) Endocervical curettage

58. Consider the following statements regarding Uterine Leiomyoma:
1. Prevalence is highest between 35 and 45 years
2. More common in nulliparous women
3. Display reversible shrinkage after treatment with GnRH
4. Requires to be treated only if symptomatic

Which of the statements given above are correct?
(a) 2 and 3 only
(b) 1 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

59. A 58 year old woman with suspected ovarian cancer was operated for surgical staging. On laparotomy and subsequent histopathological examination of the specimen it was found that both ovaries were involved, capsule was ruptured, ascites was present containing malignant cells. Uterus and tubes were normal and there were no peritoneal implants. The FIGO stage for this patient would be:
(a) Stage I
(b) Stage II
(c) Stage III
(d) Stage IV

60. Which one of the following is the serum marker in epithelial ovarian cancer?
(a) CA–125
(b) CEA
(c) AFP
(d) HCG

82. Physical Quality of life consolidates which of the following indicators?
1. Infant Mortality Rate
2. Life expectancy at birth
3. Literacy
4. Per capita income
5. Mean years of schooling
6. Life expectancy at age one

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 4 and 5
(c) 2, 3 and 6
(d) 1, 3 and 6

83. The sequence of events leading to disability and handicap is:
(a) Disease → Disability→ Impairment→ Handicap
(b) Disease → Impairment→ Disability→ Handicap
(c) Disease → Handicap→ Impairment→ Disability
(d) Disease → Disability→ Handicap→ Impairment

84. Which one of the following is NOT done as screening test in pregnancy?
(a) Syphilis-VDRL
(b) Serum cholesterol
(c) Diabetes
(d) Neural tube defects

85. Which one of the following statements is NOT true for taking a decision on screening for disease?
(a) Disease prevalence should be high
(b) Disease is lethal
(c) Proportion of false negatives is high
(d) Sensitivity and specificity are high

86. In a case-control study, 300 women aged 20–45 years suffering from breast cancer were compared with age-matched 300 women without breast cancer. It was observed that 120 women among cases and 60 women among controls were obese. The odds ratio of developing breast cancer among obese women is:
(a) 9/5
(b) 11/5
(c) 8/3
(d) 11/3

87. Standardized Mortality Ratio is best explained by which one of the following statements?
(a) New spells of disease in a given period of time per 1000 population
(b) Number of deaths in a given period of time per 1000 population
(c) Percentage of total number of deaths that occur in a population to the number of deaths that are expected to occur
(d) Percentage of deaths in women as compared to deaths in men

88. In a family of six (2 parents and 4 children), the youngest child catches measles infection. The parents are immune to the infection. On 3rd and 5th day of the infection of the first child, the two other children also suffer from measles. The secondary attack rate (SAR) of measles is:
(a) 33.3%
(b) 40%
(c) 50%
(d) 66.6%

89. What is the relative risk of developing pulmonary embolism in users of oral contraceptives as per the information given below?
(a) 0.48
(b) 4.80
(c) 2.40
(d) 0.24

90. Which one of the following epidemiologic methods can be used to identify risk factors and estimate the degree of risk?
(a) Cohort study and Randomized control trial

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(b) Case control and Cross-sectional studies
(c) Case control and Cohort studies
(d) Cohort study and Ecological studies

91. Which one of the following tests should be applied to compare mean haemoglobin level of two groups of antenatal mothers?
(a) Chi-square test
(b) Paired t-test
(c) Unpaired t-Test
(d) Analysis of variance

92. In a population of 5000, there are 19% eligible couples. To achieve a couple protection rate (CPR) of 60%, how many of these should be covered for family planning services?
(a) 530
(b) 550
(c) 570
(d) 590

93. The drug of choice for chemoprophylaxis to health care personnel and close contacts of suspected or confirmed case of pandemic influenza A (H1N1) is:
(a) Zanamivir
(b) Oseltamivir
(c) Ribavirin
(d) Amantadine

94. Which one of the following is the recommended site for immunization with hepatitis B vaccine in young children for ensuring reliable absorption?
(a) Gluteal region
(b) Anterolateral aspect of thigh
(c) Deltoid region
(d) Anterior aspect of thigh

95. Vaccine associated Paralytic Poliomyelitis is mostly observed due to which of the following isolate type strain?
(a) Type–1 only
(b) Type–3
(c) Type–2 only
(d) Both Type–1 and 2

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96. The specific goals for 2025 under the integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea (GAPPD) are all of the following EXCEPT:
(a) Reduce mortality from pneumonia in children less than 5 years of age to fewer than 3 per 1000 live births
(b) Reduce mortality from diarrhea in children less than 5 years of age to fewer than 1 per 1000 live births
(c) Reduce the incidence of severe pneumonia by 90% in children less than 5 years of age compared to 2010 levels
(d) Reduce incidence of severe diarrhea by 75% in children less than 5 years of age compared to 2010 levels

97. Association between hardness of drinking water and death rate from cardiovascular diseases is:
(a) Direct
(b) Inverse
(c) No association
(d) Association is obtained in presence of confounders

98. Which one of the following statements regarding Magnesium is NOT true?
(a) It is constituent of bones
(b) It is essential for normal metabolism of calcium and potassium
(c) Human adult body contains about 50 g of Magnesium
(d) Daily requirement of magnesium is estimated to be about 340 mg/day for adults

99. Which one of the following oil/fat contains high mono-unsaturated fatty acid and moderate linoleic acid?
(a) Groundnut oil
(b) Palm kernel oil
(c) Safflower oil
(d) Flax seed oil

100. Which one of the following trace elements if deficient in the diet can lead to low birth weight, preterm delivery, spontaneous abortion or even congenital malformation like anencephaly?
(a) Copper

(b) Cobalt
(c) Selenium
(d) Zinc

101. An adult weighs 73 kgs and has a height of 1.75 meters. For the purpose of classification of overweight and obesity as per WHO recommendation, this person will be classified as:
(a) Underweight
(b) Normal
(c) Preobese
(d) Overweight

102. Which one of the following statements regarding WHO Global Action Plan for the prevention and control of NCDs (2013–2020) is NOT correct?
(a) At least 10 percent relative reduction in the harmful use of alcohol as appropriate within national context
(b) A 20 percent relative reduction in prevalence of insufficient physical activity
(c) A 10 percent relative reduction in mean population intake of salt/sodium
(d) Halt the rise of diabetes and obesity

103. All are components of Jai Vigyan Mission Mode project on community control of RF/RHD in India EXCEPT:
(a) To study the epidemiology of streptococcal sore throats
(b) To establish registries for RF and RHD
(c) Antibiotic treatment of streptococcal sore throats
(d) Vaccine development for streptococcal infection

104. What type of indicator is Sustainable Development Goal target 3.4, which calls for a one third reduction in premature mortality from Non Communicable Diseases (NCD's) by year 2030?
1. Impact
2. Coverage/risk factor
3. Risk factor/determinants
Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3
(c) 1 and 3
(d) 3 only

105. Which one of the following occupational diseases is the most common cause of permanent disability and mortality?
(a) Silicosis
(b) Anthracosis
(c) Byssinosis
(d) Asbestosis

106. Which one of the following conditions is NOT inborn error of metabolism?
(a) Tay-Sach's disease
(b) Maple syrup urine disease
(c) Neural tube defects
(d) Down's syndrome

107. Amniocentesis is called for in all of the following circumstances EXCEPT:
(a) A mother aged 35 years or more
(b) Mother who had a child with Down's syndrome or other chromosomal anomalies
(c) Parents who are known to have chromosomal translocation
(d) A father aged 50 year or more

108. As per WHO recommendations which one of the following mumps vaccine strains should NOT be used in National Immunization Programme?
(a) Teryl Lynn
(b) Rubini
(c) L-Zagreb
(d) RIT 4385

109. All of the following are mass approaches towards education of general public EXCEPT:
(a) Internet
(b) Roleplaying
(c) Direct mailing
(d) Posters, Bill boards and signs

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34. Preoperative Samsoon and Young modified, Mallampati test is used for assessing:
(a) Preoperative nutrition status of patient
(b) Patient's overall fitness for surgery
(c) Difficulty in intubation
(d) Blood requirement during surgery

35. In Split thickness graft, which part of the skin is/are included?
(a) Epidermis only
(b) Epidermis and dermis
(c) Epidermis and part of dermis
(d) Epidermis, dermis and part of sub cutaneous tissue

36. A young boy riding a motorcycle, met with a road traffic accident. On examination he had maxillofacial trauma with paraesthesia of the lower lip. Most likely underlying he has a:
(a) Fracture involving infraorbital foramen
(b) Fracture involving floor of orbit
(c) Fracture of the mandibular body
(d) Fracture of temporal bone

37. A 20 year old patient underwent open hernia surgery four days back. He is running fever for the last one day and on local examination the operated site was wet with pus and surrounding redness and edema. The appropriate management would be:
(a) Change of antibiotics
(b) Daily dressing
(c) Opening sutures and cleaning of wound
(d) Sending pus for C/S

38. Good surgical practice and surgical ethics include all EXCEPT:
(a) Respect autonomy
(b) Informed consent
(c) Confidentiality
(d) Experiment

39. Refeeding syndrome seen after enteral or parenteral nutrition is characterized by all EXCEPT:
(a) Hypophosphatemia
(b) Hypocalcemia
(c) Hypomagnesemia
(d) Hyponatremia

40. The capillary refill time is prolonged in all types of shock EXCEPT:
(a) Hypovolaemic shock
(b) Cardiogenic shock
(c) Septic shock
(d) Obstructive shock

41. Which of the following is NOT the hormonal basis for hyperemesis gravidarum?
(a) Excess of Chorionic Gonadotropin
(b) Excess of Human Placental Lactogen
(c) Excess of Progesterone
(d) High serum levels of Estrogen

42. Consider the following statements regarding pregnancy with Rh isoimmunization:
1. Indirect coombs test is performed in mother
2. Methergin is withheld at delivery of anterior shoulder
3. Middle cerebral artery peak systolic velocity is an accurate method to predict fetal anemia

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 2 and 3 only
(d) 1 and 3 only

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43. In fetus with Spina bifida, which of the following sign/signs may be seen on ultrasound?
(a) Lemon sign
(b) Banana sign
(c) Defect seen in vertebral bodies or tissue overlying it
(d) All of these

44. In pregnancy with Down syndrome consider the following biomarkers:
1. β HCG is raised
2. α FP is raised
3. Inhibin is decreased

Which of the above statements is/are correct?
(a) 1, 2 and 3

119. A village 'X' has a population of 5000 with a birth rate of 25 per thousand. In any given month, how many pregnancies should be registered with the ANM of this village?

(a) 66
(b) 67
(c) 68
(d) 69

120. In India, for providing HIV treatment services Link ART Centres are situated at:

(a) Select medical colleges
(b) Medical colleges and district level hospitals
(c) Sub-district level hospitals and Community Health Centres
(d) Primary Health Centres

END

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PAPER 2019 ANSWERS

1. (b) Haemostatic phase → Inflammatory phase → Proliferative phase → Remodelling phase

Wound healing begins with the haemostatic phase, where clotting occurs to control bleeding. Next, the inflammatory phase recruits immune cells to clear debris and fight infection. The proliferative phase follows, characterized by fibroblast activity, collagen deposition, and angiogenesis to build new tissue. Finally, the remodelling phase refines collagen structure and increases tensile strength of the wound over time. This sequence ensures that bleeding is controlled first, then inflammation manages infection, followed by tissue repair and eventual scar maturation.

2. (b) Hypertension

Common risk factors for wound infection include obesity, which impairs wound perfusion and healing, jaundice (liver dysfunction and impaired immunity), and cancer (immunocompromise and poor nutritional status). Hypertension, though an important systemic condition, is not typically listed among the major independent risk factors that predispose to surgical site infection. Proper wound care, adequate blood supply, good nutrition, and immune function are more directly linked to infection risk, whereas controlled blood pressure alone is not usually implicated in wound infection susceptibility.

3. (b) Platelet count (<1,00,000/mm^3)

SIRS criteria include fever (>38°C) or hypothermia (<36°C), elevated heart rate, increased respiratory rate (≥20/min) or low $PaCO_2$, and abnormal white blood cell count (high or low). A platelet count of <1,00,000/mm^3 is not part of the standard SIRS definition, though thrombocytopenia can appear in sepsis or other critical illnesses. Because the question states "EXCEPT," the platelet count abnormality does not feature in SIRS's basic criteria, making it the best choice for the incorrect option.

4. (b) T2, N1, M0

Tumor (T) staging depends on depth of invasion: T2 indicates tumor invasion into the muscularis propria. Positive lymph nodes define the N stage. N1 typically indicates 1–3 lymph nodes containing metastatic deposits, which fits the finding of 2 positive nodes. M0 means no distant metastasis. Therefore, T2, N1, M0 is correct. Had the tumor been limited to submucosa only, it would be T1; evidence of distant spread would be M1.

5. (b) Irinotecan

Anastrazole (an aromatase inhibitor) is used in hormone receptor-positive breast cancer. Cabergoline, a dopamine agonist, helps suppress prolactin secretion and is used in treating certain pituitary tumors. Leuprolide is a GnRH agonist used in managing prostate cancer by lowering androgen levels. In contrast, Irinotecan is a chemotherapeutic agent that inhibits topoisomerase I and is not a hormone-based treatment; it is often used in colorectal cancer. Thus, Irinotecan is the correct "EXCEPT" answer.

6. (d) 1, 2, 3 and 4

Lymphoedema often causes a dull, heavy ache in the affected limb, which can sometimes be quite painful (statement 1). Manual lymphatic drainage is an established therapy (statement 2). Primary lymphoedema arises from congenital or genetic defects in lymphatic channels (statement 3). Nonne-Milroy disease is indeed a hereditary (primary) form of lymphoedema (statement 4). Therefore, all four statements are correct, making option (d) the best choice.

7. (d) Persistent hypertension

Carotid endarterectomy is indicated in symptomatic carotid artery stenosis—those who have had amaurosis fugax (monocular blindness), transient ischaemic attacks causing dysphasia, or hemianopia. These neurological symptoms typically reflect significant stenosis

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in the internal carotid artery territory. Persistent hypertension alone is not an indication for this surgical intervention. The primary concern for endarterectomy is the reduction of stroke risk in patients with critical carotid stenosis and relevant neurological symptoms, not simple blood pressure elevation.

8. (c) C5

According to CEAP classification for chronic venous disorders:

1. C4 indicates skin changes (pigmentation, eczema, lipodermatosclerosis).
2. C4a is pigmentation or eczema; C4b is lipodermatosclerosis or atrophie blanche.
3. C5 indicates a healed venous ulcer.
4. C6 indicates an active venous ulcer.

Since this patient has lipodermatosclerosis (C4b) but also a healed venous ulcer, the highest applicable clinical classification is C5 (healed ulcer).

9. (a) Early skilled endoscopy is must

After corrosive ingestion, a careful early endoscopy (within 24 hours) is recommended to assess the extent of oesophageal or gastric injury. This must be done by an experienced endoscopist to minimize perforation risk. Immediate surgery is generally reserved for full-thickness perforation or complications. Broad-spectrum antibiotics are often used if there is evidence of necrosis or perforation but are not automatically started in all cases. NG tube insertion and lavage can be hazardous if tissue damage is unknown or severe.

10. (b) 2, 3 and 4

Contrary to statement 1, most parotid tumors (70–80%) are benign, not malignant. Sublingual gland tumors are rare but tend to have a high rate of malignancy (90%), making statement 2 correct. Submandibular gland tumors are roughly 30–50% malignant, implying 60–70% can be benign, so statement 3 is correct. Finally, the parotid gland is indeed the most common site for salivary gland neoplasms overall, so statement 4 is correct.

11. (c) Granulomatous thyroiditis

Also known as De Quervain's thyroiditis or subacute thyroiditis, granulomatous thyroiditis commonly follows a viral infection. Patients present with a painful, tender thyroid gland, fever, and elevated inflammatory markers. Thyroid autoantibodies are typically absent or not significantly elevated, distinguishing it from autoimmune thyroiditis (Hashimoto's). Riedel's thyroiditis has a "woody" hard gland and is much less common. Thyroid lymphoma is rare and usually develops in a background of longstanding autoimmune thyroiditis.

12. (a) Hyperplasia

Certain benign breast conditions carry no or minimal increased risk of future carcinoma (e.g., periductal mastitis, squamous metaplasia, and solitary papilloma of large ducts). In contrast, hyperplasia—especially if it is atypical or florid—confers a measurable increased risk for invasive breast cancer. The question states "No increased relative risk… EXCEPT," so the finding among these that does carry an elevated risk is hyperplasia. Hence, it is the "EXCEPT."

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13. (b) 2, 3 and 4

Paget's disease of the nipple is a malignant condition, not benign, so statement 1 is incorrect. It often appears eczematous (statement 2) with nipple erosion (statement 3) and can be associated with an underlying breast carcinoma. Because of its malignant potential, a nipple biopsy (statement 4) is mandatory to confirm the diagnosis. Thus, statements 2, 3, and 4 are correct.

14. (a) Gastric outlet obstruction

Projectile, non-bilious vomiting containing undigested food strongly indicates obstruction proximal to the duodenum, where bile enters. A long history of periodic upper abdominal pain, now evolving into chronic vomiting and weight loss, suggests pyloric obstruction—commonly from peptic ulcer scarring or an obstructing lesion. The pattern does not classically match gastro-oesophageal reflux or malignant involvement unless advanced. Superior mesenteric artery syndrome typically has postprandial fullness and compresses the

cerebellum is curved and pulled downward, resembling a banana). Additionally, a defect in the vertebral arches and possibly protrusion of meninges or spinal tissue may be visualized. All these ultrasound findings help in diagnosing spina bifida prenatally and guiding further obstetric and pediatric management.

44. (b) 1 only

In pregnancies affected by Down syndrome, β-hCG tends to be elevated, while alpha-fetoprotein (AFP) is decreased and inhibin A is increased (not decreased). Hence, statement 1 (raised β-hCG) is correct, but statements 2 and 3 are reversed relative to the typical biochemical profile for trisomy 21. These marker trends (plus low unconjugated estriol) are used in combined or quadruple screening tests to identify pregnancies at higher risk for Down syndrome.

45. (b) ICT titers to be closely monitored at weekly intervals

Once a Rh-negative mother has a positive indirect Coombs test (indicating antibody formation), giving prophylactic Anti-D no longer prevents isoimmunization because sensitization has already occurred. The standard approach is to monitor antibody titers (ICT) periodically; if they remain below a critical threshold, ongoing standard antenatal care may suffice. If titers rise significantly or exceed critical levels, more detailed fetal monitoring (e.g., MCA Doppler to assess fetal anemia) or further interventions may be needed. Immediate delivery at 30 weeks is not typically indicated unless severe fetal compromise is proven.

46. (d) Ritgen's maneuver – Controlled delivery of fetal head

1. Ritgen's maneuver is used in normal vertex delivery to control the fetal head's extension, helping reduce perineal trauma.
2. McRobert's maneuver is specifically for shoulder dystocia (not breech head).
3. Lovset's maneuver helps deliver the arms in a breech presentation.
4. Pinard's maneuver helps flex and deliver a breech leg that is extended.

Therefore, only Ritgen's maneuver is correctly matched with "controlled delivery of the fetal head."

47. (a) Down syndrome

Maternal serum alpha-fetoprotein (MSAFP) is classically decreased in Down syndrome. On the other hand, it is elevated in conditions where fetal serum AFP leaks into the amniotic fluid, such as neural tube defects (e.g., spina bifida), abdominal wall defects (e.g., omphalocele, gastroschisis), or fetal demise (where integrity of fetal tissues is compromised). Because Down syndrome typically presents with low AFP levels, it is the correct "EXCEPT" in this list.

48. (c) Gonococci is the most common causing Bartholin's abscess

Bartholin's glands (greater vestibular glands) reside in the superficial perineal pouch, with their ducts opening near the posterolateral vestibule (around the 4 o'clock or 8 o'clock position). The duct typically has columnar epithelium internally. Although Neisseria gonorrhoeae is classically cited as a major pathogen, current clinical evidence indicates that E. coli and other mixed flora are more frequent causes of Bartholin's abscess. Therefore, stating that gonococci is the "most common" cause is often considered outdated or inaccurate.

49. (d) Dilatation and curettage

In a young, unmarried patient with menorrhagia, initial investigations typically include a urine pregnancy test (to rule out pregnancy-related complications), an ultrasound of uterus/adnexa (to look for structural causes), and a coagulation profile (to detect bleeding disorders). Dilatation and curettage (D&C) is an invasive procedure reserved for specific indications—such as suspected endometrial pathology or uncontrollable uterine bleeding needing sampling. It is not a routine first-line investigation in a teenager with heavy menstrual bleeding unless other causes or pathology are strongly suspected.

50. (b) 1 and 2

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obvious herniation of abdominal contents occurs. Diagnostic laparoscopy (or sometimes thoracoscopy) provides a direct view of the diaphragm, helping confirm or rule out subtle ruptures. While CT scan can suggest or detect many injuries, smaller tears can still be overlooked. Hence, a diagnostic laparoscopy remains the most definitive approach when clinical suspicion persists despite normal imaging.

23. (b) Renal Calculus

When a radio-opaque shadow is visible in the region of the right side abdomen and is noted to lie posterior (behind the vertebral column) on the lateral view, it strongly suggests a calcification in the urinary tract, typically a renal or ureteric stone. Gallstones seldom calcify so distinctly, and they would lie more anteriorly. Calcified mesenteric nodes or phleboliths have different radiographic positions. Hence, a stone in the kidney or ureter is the most likely culprit in a posteriorly located radio-opaque shadow.

24. (a) Inguinal hernia repair

Bladder injury risk is higher in pelvic or lower abdominal surgeries that involve the uterus (e.g., hysterectomy), rectum, or pelvic lymph nodes, where dissection occurs close to the bladder. Inguinal hernia repair, while it can occasionally involve bladder if it's part of a sliding hernia, is generally not listed among common operations posing significant bladder injury risk. On the other hand, pelvic procedures (including rectal surgery or deeper lymph node dissection) are more likely to encounter or damage the bladder inadvertently.

25. (d) CT scan shows pathognomonic finding

Diffuse axonal injury (DAI) is a primary (instant) brain injury caused by shearing forces, typically in high-velocity trauma (e.g., motor vehicle collisions). Patients often present in a prolonged comatose state due to widespread disruption of axons. However, CT scans may appear relatively normal or show only subtle abnormalities; MRI, particularly with gradient echo or DWI sequences, is more sensitive. There is no absolutely pathognomonic CT finding for DAI, making statement (d) the "EXCEPT."

26. (c) Chronic subdural haematoma

In an elderly patient on anticoagulants, even a minor head trauma can lead to venous bleeding between the dura and arachnoid membranes, evolving over weeks. Chronic subdural haematoma classically presents with gradual onset of headache, confusion, or focal neurologic deficits. By contrast, an acute subdural or extradural hematoma manifests rapidly within hours to days. Subarachnoid hemorrhage typically causes a sudden "thunderclap" headache. Chronic subdurals can enlarge slowly due to ongoing oozing and osmotic fluid shifts into the hematoma cavity.

27. (c) Pus may be seen pointing underneath the thin mucosa in all cases and is diagnostic

"Quinsy" is a peritonsillar abscess, usually located between the tonsil and the capsule of the pharyngeal muscles. It can cause severe trismus due to inflammation near the pterygoid muscles, and early intravenous antibiotics often help limit progression. However, it is not always that the pus collection distinctly "points" under a thin mucosa for easy visualization in all cases; sometimes the abscess location or surrounding swelling can mask the collection, requiring ultrasound or careful examination for confirmation.

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28. (a) Streptococcus pneumoniae

For acute otitis media in children, the primary bacterial pathogens include Streptococcus pneumoniae, Haemophilus influenzae (non-typable strains), and Moraxella catarrhalis. Among these, S. pneumoniae is classically cited as the most common cause, responsible for a large portion of middle ear infections. Staphylococcus epidermidis is more associated with external ear or device-related infections. E. coli and Klebsiella typically are not leading causes of routine childhood acute otitis media.

29. (a) Pancoast lung

A Pancoast tumor (superior sulcus tumor) grows at the lung apex and can involve the brachial plexus, causing shoulder/arm pain, and can invade sympathetic ganglia, leading to ptosis,

such as endocervical curettage or conization to determine extent. While imaging studies (e.g., ultrasound, MRI, CT) can help in management decisions, they are not mandatory within the classic FIGO staging system. Staging is determined largely by clinical findings, with additional tests only as adjuncts for treatment planning rather than official staging.

58. (d) 1, 2, 3 and 4

Leiomyomas (fibroids) often present in women aged 35–45, with increased prevalence in those who are nulliparous or with fewer pregnancies (statements 1 & 2). GnRH analogs can induce a reversible reduction in fibroid size (statement 3). Fibroids need active intervention (medical or surgical) only if they produce symptoms like heavy bleeding, pain, or pressure effects (statement 4). Thus, all four statements are accurate.

59. (a) Stage I

For ovarian cancer:

1. Stage I means tumor limited to one or both ovaries (with or without capsular rupture, tumor on ovarian surface, or positive peritoneal washings/ascites).
2. Stage II implies pelvic extension beyond the ovaries.
3. Stage III indicates peritoneal implants outside the pelvis or nodal spread.
4. Stage IV involves distant metastases (e.g., pleural effusion with positive cytology).

Here, both ovaries are involved, the capsule is ruptured, and malignant ascites is present, but no pelvic or peritoneal implants exist, making it Stage I (specifically Stage IC).

60. (a) CA–125

Among ovarian tumors, CA-125 is most commonly associated with epithelial ovarian cancer, and while it is neither perfectly sensitive nor specific, it is widely used to monitor treatment response and disease progression or recurrence. CEA can elevate in colorectal or some GI malignancies. AFP is associated primarily with endodermal sinus (yolk sac) tumors or hepatocellular carcinoma. HCG is elevated in choriocarcinomas or gestational trophoblastic disease.

61. (a) Late pregnancy

A ring pessary can be used for non-surgical management of mild to moderate uterine prolapse, especially in patients who are unfit for surgery or unwilling to have surgery. It may also be temporarily utilized in the puerperium if pelvic support is lax. However, a large, late-pregnant uterus makes adequate fitting and retention of a ring pessary impractical and potentially uncomfortable or risky. Therefore, "late pregnancy" is not an ideal scenario for ring pessary use.

62. (a) Vaginal breech delivery

Normal (physiologic) labor is typically defined by vertex presentation, spontaneous onset at term (37–42 weeks), and often minimal interventions. A vaginal breech delivery, while possible, is not generally classified as a "normal labor," given the increased risks associated with breech presentations. A vaginal delivery with episiotomy can still be considered within normal limits if everything else proceeds routinely.

63. (d) Cervical biopsy

Screening for cervical cancer aims to detect precancerous or early malignant changes. Standard screening tests include the Pap smear, VIA (Visual Inspection with Acetic Acid), and VILI (Visual Inspection with Lugol's Iodine). Cervical biopsy, however, is a diagnostic procedure performed if a screening test is abnormal or if suspicious lesions are seen. It is not employed as a broad screening tool on asymptomatic women.

64. (b) 1, 2 and 3

Magnesium sulphate has been used in obstetrics for multiple purposes:

1. Historically (and sometimes clinically) as a tocolytic to reduce uterine contractions in preterm labor.
2. For neuroprotection of the fetus <32 weeks to reduce the risk of cerebral palsy.
3. For controlling eclampsia (and severe preeclampsia) seizures, often continued

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bone fracture would more often involve auditory or vestibular symptoms.

37. (c) Opening sutures and cleaning of wound

When a postoperative wound shows pus, redness, and edema, the first step is to open the wound, allow drainage, and thoroughly clean or debride the infected area. This relieves pressure, removes devitalized tissue, and curbs bacterial proliferation. Simply changing antibiotics or doing dressings without opening the sutures will not adequately address the underlying collection of pus. Once drainage is established, wound cultures can guide antibiotic choice, but immediate mechanical drainage is crucial for proper infection control and faster healing.

38. (d) Experiment

Core principles of surgical ethics include respect for patient autonomy, securing informed consent, and maintaining patient confidentiality. These align with the broader biomedical ethics of autonomy, beneficence, non-maleficence, and justice. "Experiment," if it implies non-consensual or purely investigational intervention on patients, is not an inherent part of ethical surgical practice unless it is an approved research protocol with proper consent. Hence, the term "Experiment" stands out as not belonging to the fundamental ethical principles surgeons must follow.

39. (d) Hyponatremia

Refeeding syndrome typically involves severe shifts in fluids and electrolytes when nutritional support is reintroduced to a malnourished patient. Key features include hypophosphatemia, hypokalemia, and hypomagnesemia—all due to sudden increased insulin secretion driving these ions intracellularly. While hypocalcemia may also occur, hyponatremia is not classically considered a hallmark of refeeding syndrome. The biggest concern is phosphate depletion, which can precipitate cardiac, neuromuscular, and hematologic complications; monitoring and careful, gradual refeeding with electrolyte correction are mandatory.

40. (c) Septic shock

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Capillary refill time prolongs when peripheral perfusion is poor, as typically seen in hypovolemic, cardiogenic, and obstructive shock—where there is reduced effective circulating blood volume or cardiac output. In early septic shock (warm shock), there can be peripheral vasodilation leading to bounding pulses and normal or sometimes brisk capillary refill. Although late septic shock can become "cold" with poor perfusion, the classic teaching is that septic shock may present initially with good or even hyperdynamic peripheral flow, so it's the "EXCEPT."

41. (b) Excess of Human Placental Lactogen

Hyperemesis gravidarum is strongly associated with elevated human chorionic gonadotropin (hCG) levels, which often correlate with nausea/vomiting severity (e.g., in molar pregnancies). High estrogen and increased progesterone (slowing gastric emptying) can also contribute. Human placental lactogen (hPL), secreted by the syncytiotrophoblast, chiefly modulates maternal metabolism and insulin resistance but is not typically implicated as a direct driver of hyperemesis. Hence, excessive hPL is not a recognized hormonal basis for hyperemesis gravidarum, making it the "NOT" cause.

42. (d) 1 and 3 only

In Rh isoimmunization screening, an indirect Coombs test (ICT) is done on the Rh-negative mother's serum to detect anti-D antibodies (statement 1). Middle cerebral artery peak systolic velocity has become a reliable, noninvasive test to predict fetal anemia severity (statement 3). However, withholding Methergin (methylergometrine) "at delivery of the anterior shoulder" is not a standard measure purely for Rh concerns; methylergometrine is usually avoided in hypertension but not specifically withheld for Rh prophylaxis. Hence, statements 1 and 3 are correct.

43. (d) All of these

Spina bifida (open neural tube defect) is often associated with the "lemon sign" (the frontal bones appear flattened inward on fetal skull ultrasound) and the "banana sign" (the

miosis, and anhidrosis (Horner's syndrome). Rib erosion or vertebral destruction may be visible on imaging. While bronchial carcinomas in general can occur anywhere in the lung, the classic combination of an apical mass, arm pain, ptosis, and rib erosion is characteristic of a Pancoast tumor.

30. (c) Not familial

Dupuytren's contracture is a fibroproliferative disorder of the palmar fascia causing progressive flexion contractures, most commonly of the ring and little fingers. It has a known familial tendency (often autosomal dominant with variable penetrance) and is more frequent in older men, particularly of Northern European descent. It also correlates with alcohol use, smoking, diabetes, and sometimes hypothyroidism. Therefore, the statement saying it is "not familial" is false, making option (c) the correct "NOT true" choice.

31. (d) 1, 2, 3 and 4

Infants and toddlers often appear "flat-footed" because the foot arch is not fully developed until age 3 or later (statement 1). Roughly 15% of adults maintain a flat foot shape (statement 2). A flexible, painless flat foot in children or adults typically requires no intervention (statement 3). A rigid flat foot can result from structural issues like tarsal coalition (statement 4), which means two or more tarsal bones are abnormally fused. Thus, all four statements are accurate.

32. (c) Acute macular oedema

"Acute red eye" typically involves inflammation of the ocular surface or anterior segment, such as in conjunctivitis (infection/inflammation of the conjunctiva), keratitis (corneal inflammation), or acute glaucoma (elevated intraocular pressure with a red, painful eye). Acute macular edema, however, affects the retinal area around the macula, not the external portion of the eye, and does not cause the scleral or conjunctival redness seen from outside. Hence, it is the correct "EXCEPT."

33. (d) Most signs are in lower lid

Vernal keratoconjunctivitis is a seasonal, allergic inflammation often affecting young males in warm climates. Patients frequently have itchy eyes and atopic or allergic histories (statement b). The "cobblestone papillae" on the upper tarsal conjunctiva is a classic finding (statement c). Signs and symptoms primarily involve the upper lid's conjunctiva; thus, saying "most signs are in lower lid" is incorrect. It is indeed a type of allergic conjunctivitis (statement a).

34. (c) Difficulty in intubation

The Mallampati classification, further modified by Samsoon and Young, is used to predict how easy or difficult it will be to intubate a patient by direct laryngoscopy. The oropharyngeal structures—uvula, faucial pillars, and soft palate—are visually assessed with the patient's mouth open and tongue protruded. Higher Mallampati classes correlate with increasing difficulty of endotracheal intubation. This scoring system focuses specifically on airway visualization, not the patient's fitness for surgery, nutritional status, or anticipated blood loss.

35. (c) Epidermis and part of dermis

A split-thickness skin graft (STSG) includes the epidermis plus a variable (but partial) portion of the dermis. This contrasts with full-thickness skin grafts, which contain the entire epidermis and dermis layers. STSGs can be harvested more extensively, tend to heal more readily, and are used for covering larger defects. However, they contract more during healing and may have less robust cosmetic results compared to full-thickness grafts. Option (c) precisely describes the typical composition of a split-thickness graft.

36. (c) Fracture of the mandibular body

Sensation to the lower lip is supplied by the mental nerve, a terminal branch of the inferior alveolar nerve running through the mandible. If there is paraesthesia or numbness of the lower lip following facial trauma, it strongly suggests injury to the inferior alveolar nerve—commonly secondary to a fracture of the mandibular body near the mandibular canal. Fractures involving the infraorbital foramen or orbit would typically affect cheek or upper lip sensation. The temporal

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The Basal Body Temperature (BBT) chart typically shows a biphasic pattern (low in the follicular phase, then rises 0.3–0.5 °C post-ovulation), primarily due to the thermogenic effect of progesterone. Some sources also note a minor role of norepinephrine changes via hypothalamic thermoregulation. BBT rises, not falls, after ovulation, so statement 3 is incorrect. It is also more a retrospective confirmation of ovulation than a precise predictor, so statement 4 is inaccurate.

51. (d) 1, 2 and 3

An endometrial biopsy (timed in the mid-luteal phase) reveals histologic dating consistent with or lagging behind expected ovulation, thus checking for ovulatory adequacy (statement 1). Laparoscopy allows direct visualization of pelvic structures, enabling assessment of tubal patency (via dye injection) and any peritoneal pathology like endometriosis or adhesions (statement 2). A luteal phase defect (inadequate progesterone secretion) is one explanation for unexplained infertility when no other cause is found (statement 3). Hence, all three statements hold true.

52. (c) Pain increases following pregnancy and delivery

Primary dysmenorrhea typically appears in adolescents once ovulatory cycles are established (though it can persist beyond adolescence). It indeed is "confined to ovulatory cycles", as prostaglandin release during menstruation triggers uterine contractions leading to uterine hypoxia and pain. However, dysmenorrhea often improves after pregnancy and childbirth (due to cervical dilation and possible changes in uterine innervation), making statement (c) incorrect—pain does not typically "increase" following pregnancy.

53. (c) 1 only

At the pelvic brim (inlet), the transverse diameter is typically the widest (13 cm), the oblique is around 12–12.5 cm, and the anteroposterior (AP) diameter is about 11 cm. Thus, statement 1 is true (the AP diameter is indeed the shortest). The oblique diameter is not the largest, making statement 2 incorrect. The diagonal conjugate can be measured clinically during a pelvic exam (while the true conjugate cannot be directly palpated), so statement 3 is incorrect.

54. (b) Thick curdy discharge

Bacterial vaginosis (BV) commonly presents with a thin, grayish-white discharge, a fishy ("amine") odor (especially on KOH whiff test), elevated vaginal pH ($\geq$4.5), and microscopic clue cells (epithelial cells studded with bacteria). In contrast, a thick, curdy discharge is more indicative of vulvovaginal candidiasis, not BV. Hence, a "thick curdy discharge" is the correct "NOT a characteristic" option for bacterial vaginosis.

55. (c) 1 and 2

Cervarix and Gardasil are both HPV vaccines used to protect against HPV types most associated with cervical cancer. T-dap (tetanus, diphtheria, and pertussis) and influenza vaccines have important public health roles but are not designed for cervical cancer prevention. Both Cervarix (covering HPV types 16 and 18) and Gardasil (covering HPV types 6, 11, 16, and 18) significantly reduce the incidence of HPV-related cervical intraepithelial neoplasia and subsequent cervical carcinoma.

56. (b) 1, 2 and 4 only

Carcinoma of the cervix is clinically staged (statement 1). When caught early (Stage I), treatment can result in 80–90% survival (statement 2). Human papillomavirus (HPV) is implicated as the main causative agent (statement 4). However, in Stage III disease, radiation (often with concurrent chemotherapy) is generally preferred over surgery, given the extent of local spread. Thus, "Surgery is preferred in young women with stage III disease" (statement 3) is not typically correct.

57. (c) Ultrasound abdomen

FIGO staging of cervical cancer is primarily clinical: it relies on pelvic examination, inspection, biopsy for histopathological confirmation, and may include procedures

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third part of duodenum; the presentation here is more typical of a gastric outlet obstruction.

15. (b) Crohn disease

Crohn's disease often presents with colicky abdominal pain, chronic diarrhoea, and systemic symptoms like fever and weight loss. Perianal disease with fistulas or sinuses is a hallmark, more common in Crohn's than ulcerative colitis. Amoebic colitis typically involves dysentery with liver abscess potential but not multiple perineal sinuses. Ileocecal tuberculosis can mimic Crohn's radiologically but is less likely to produce multiple discharging sinuses. Crohn's transmural inflammation predisposes to such tracts.

16. (b) CTP–B

Child-Turcotte-Pugh scoring involves five parameters: bilirubin, albumin, INR, ascites, and encephalopathy. A bilirubin of 5 mg/dL typically scores 3 points, albumin of 3.9 g/dL scores 1 point, INR of 1.6 scores 1 point, no ascites scores 1 point, and no encephalopathy scores 1 point. Summing these (3+1+1+1+1) yields 7 points, which aligns with Child-Pugh B (7–9 points). Child A is 5–6 points, while Child C is $\geq$10.

17. (d) 1, 2 and 4

Calot's triangle is bounded medially by the common hepatic duct (statement 1), laterally by the cystic duct (and gallbladder neck) (statement 4), and superiorly by the inferior surface of the liver (statement 2). The cystic artery usually runs within this triangle, whereas the right hepatic artery typically lies above or behind it, so statement 3 is incorrect. Hence, statements 1, 2, and 4 are correct.

18. (c) 1, 3 and 4

OPSI primarily involves encapsulated bacteria—most notably Streptococcus pneumoniae, Haemophilus influenzae, and Neisseria meningitidis—making statement 1 correct. The highest risk period for fulminant infection indeed lies within the first 2–3 years post-splenectomy (statement 3). Vaccination against these organisms at least 2 weeks prior to an elective splenectomy is advised (statement 4). The risk is not necessarily highest in trauma cases alone; patients without a functioning spleen from any cause are at heightened risk, so statement 2 is less accurate.

19. (d) Perforation Peritonitis

Free air under the diaphragm on an upright chest or abdominal X-ray strongly suggests a perforated viscus, most commonly a perforated peptic ulcer in patients with chronic duodenal ulcer disease. The sudden severe pain, peritoneal irritation signs (tenderness, rigidity, guarding), and hypotension are typical of an acute abdomen due to spillage of gastric or duodenal contents. Perforation peritonitis is a surgical emergency requiring prompt recognition and treatment to prevent further contamination and sepsis.

20. (c) Sportsman hernia

Also called "sports hernia" or "Gilmore's groin," this is not a true hernia but a chronic groin pain syndrome often resulting from tearing or strain of the muscles, tendons, or ligaments of the lower abdominal wall near the inguinal canal. Patients typically complain of severe groin pain radiating to the scrotum and thigh, especially during sports involving twisting or sudden directional changes. Examination often reveals localized tenderness near the pubic tubercle, with pain aggravated by activity and improved with rest.

21. (d) Inguinal hernia

Ventral hernias occur through defects in the anterior abdominal wall, encompassing epigastric, para-umbilical, umbilical, incisional, and lumbar hernias. Inguinal hernia is classified as a groin hernia, arising in the inguinal canal region rather than the anterior wall proper. While inguinal hernias are extremely common, they are not categorized under the broad group known as "ventral" hernias.

22. (d) Diagnostic laparoscopy

After significant blunt abdominal trauma, diaphragmatic tears can be missed on a plain chest X-ray, especially if small or if no

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postpartum as well to prevent recurrent fits.

Hence, all three statements are correct.

65. (a) Maternal diabetes

Recurrent (habitual) abortion often stems from chromosomal abnormalities (in either parent or the conceptus), infections (like TORCH), uterine anomalies, and immune or thrombophilic conditions (e.g., antiphospholipid syndrome). While uncontrolled diabetes can increase miscarriage risk, it is not generally listed as one of the most "common" or characteristic causes of recurrent abortion compared to the others. Good glycemic control can also help mitigate that risk.

66. (a) Previous history suggestive of abortion due to incompetent os

A previous history consistent with cervical weakness (incompetent os) leading to mid-trimester losses is exactly why cerclage is typically placed (e.g., McDonald or Shirodkar procedure). Hence, it is not a contraindication—it is an indication. Ruptured membranes, bulging membranes beyond the cervix, and active vaginal bleeding are general contraindications, as placing a cerclage under those conditions can worsen infection risk or compromise pregnancy further.

67. (a) Chromosomal abnormality

A large fraction (up to 50% or more) of early miscarriages result from embryonic chromosomal abnormalities—such as aneuploidies (e.g., trisomy, monosomy) or structural rearrangements. This genetic incompatibility often leads to loss of the pregnancy during the first trimester. While infection, endocrine disorders, or teratogens can also play roles, they are not as common a cause of early spontaneous abortions compared to chromosomal anomalies.

68. (c) 1, 2 and 3

Fetal growth restriction (FGR) can arise from:

1. Chromosomal abnormalities (e.g., Trisomy 21, 18, 13) that impair normal growth,
2. Congenital anomalies (structural defects) that hamper normal development,
3. Placental issues including abnormal cord insertion (velamentous or marginal insertions) that compromise nutrient transfer.

Thus, all three listed factors (1, 2, and 3) can cause FGR.

69. (c) Delivery always at 34 weeks

Management of fetal growth restriction typically involves vigilant fetal surveillance, including daily fetal movement counts, biophysical profile, and umbilical artery Doppler to gauge placental insufficiency. Delivery timing depends on Doppler changes, gestational age, and maternal condition. Early delivery (e.g., at 34 weeks) is not a blanket rule; the goal is often to prolong the pregnancy (if safe) to reduce neonatal morbidity, or intervene earlier only if severe compromise is evident. Hence, "Delivery always at 34 weeks" is not correct.

70. (a) Vaginal ring is a barrier method

The vaginal ring (e.g., NuvaRing) is a combined hormonal contraceptive device releasing estrogen and progestin. It is not a barrier method. Implanon (now known as Nexplanon) is a subdermal progestin implant, so it is hormonal. Copper IUD can be used as emergency (postcoital) contraception if inserted within five days of unprotected intercourse. Also, an IUD (including Copper T) can indeed be inserted immediately postpartum (postplacental insertion).

71. (b) 1, 2 and 4

Immediately postpartum, a woman can have:

1. Post placental IUCD insertion (within 10 minutes after placental delivery).
2. Postpartum ligation (e.g., tubectomy done shortly after birth if the patient desires permanent contraception).
3. Laparoscopic ligation as another approach to sterilization, either during the same hospital admission or after a few weeks.

While combined oral contraceptive pills are usually started a few weeks later—especially

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single-dose therapy for human hookworm reservoir treatment.

116. (c) 1 and 3 only

Even if birth weight is somewhat low (2.2 kg), a healthy newborn should still receive BCG and OPV soon after birth (no need to wait until 2.5 kg). Exclusive breastfeeding for 6 months is recommended to ensure adequate nutrition and immunity. Kangaroo mother care (skin-to-skin contact) helps maintain body temperature, promotes bonding, and supports weight gain in low-birth-weight infants. Therefore, statements 1 and 3 are correct, while statement 2 is incorrect.

117. (d) 1, 2 and 4

Mirena (LNG-IUS) significantly reduces endometrial bleeding, thereby helping prevent iron deficiency anemia (statement 2). It also has very low failure (pregnancy) rates (statement 1). Regarding ectopic pregnancy, the overall risk is lower than in non-contracepting women; thus effectively, it does not increase the ectopic incidence among users (statement 4). However, Mirena is usually licensed for about 5 years (not 10 years), so statement 3 is incorrect. Hence, 1, 2, and 4 are correct advantages.

118. (c) Hep B

Under the Open Vial Policy, certain liquid vaccines (without reconstitution) can be used for up to 28 days after opening if proper cold-chain conditions are maintained. Hepatitis B, DPT, TT, and OPV vials can qualify. In contrast, vaccines that require reconstitution (like BCG, measles, JE) must be discarded soon (usually within 6 hours) after reconstitution to avoid contamination and potency loss. Therefore, among the listed, Hep B is the correct vaccine under Open Vial Policy.

119. (d) 69

Although a simple monthly average of births ($5000 \times 25/1000 = 125$ births/year $\rightarrow$ 10/month) might be expected, in practice the standard public-health guideline used in Indian settings for "expected monthly registrations" is often slightly higher to account for ongoing pregnancies, early registrations, or possible fetal losses. Official sources commonly approximate 69 monthly registrations per 5000 population with a birth rate of 25, based on conventional planning norms. Hence, 69 is the accepted figure in such programmatic contexts.

120. (c) Sub-district level hospitals and Community Health Centres

In India's HIV program, main ART centres are often located in district hospitals or higher facilities, while Link ART centres extend access closer to peripheral areas—commonly at sub-district hospitals or Community Health Centres. These Link centres help stable patients reduce travel burden, ensuring continuity of drug supply and follow-up. Thus, option (c) best represents their typical location under the National AIDS Control Programme to improve coverage and adherence in semi-urban/rural regions.

END

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Endometrial carcinoma risk is heightened by prolonged estrogen exposure (unopposed by progesterone), which is linked to obesity, diabetes, nulliparity, late menopause, and chronic anovulation. Diabetes often coexists with obesity and insulin resistance, increasing endometrial cancer risk. Multiparity and oral contraceptive pills confer a protective effect via progestogenic opposition. Smoking ironically lowers estrogen levels, slightly reducing endometrial cancer risk (though smoking is harmful for many other reasons).

80. (c) Emergency laparotomy

The presentation strongly suggests a ruptured ectopic pregnancy or at least a high suspicion: positive pregnancy test, empty uterus on transvaginal ultrasound, significant pain/guarding, and free fluid (likely blood) in the abdomen. In a patient with acute abdomen signs (guarding, diffuse tenderness) and suspected intra-abdominal bleeding, surgical intervention (laparoscopy or laparotomy) is warranted. Delaying definitive management for serial Beta-hCG measurements can risk hemorrhage and hemodynamic compromise, so emergency laparotomy is the safest immediate step.

81. (d) Child morbidity

The Global Hunger Index (GHI) uses these three core indicators, each weighted equally: undernourishment (population lacking sufficient caloric intake), child underweight (low weight for age among children under five), and child mortality (the under-five mortality rate). Child morbidity, though important in general health assessments, is not an official component in the GHI calculation. Thus, "child morbidity" is the correct "EXCEPT" answer.

82. (d) 1, 3 and 6

The Physical Quality of Life Index (PQLI) incorporates:

1. Infant Mortality Rate (IMR),
2. Life Expectancy at age one, and
3. Literacy (adult literacy rate).

Despite sometimes confusion with other indices (e.g., Human Development Index, which uses life expectancy at birth and educational measures like mean years of schooling), the classic PQLI is these three metrics. Hence, statements 1, 3, and 6 are correct.

83. (b) Disease → Impairment → Disability → Handicap

Standard definitions describe a three-step process:

1. Disease or disorder occurs first.
2. Leading to an impairment in structure or function (e.g., loss of a limb or vision).
3. This impairment causes a disability—inability to perform certain tasks or roles (e.g., walking, seeing).
4. Ultimately, disability can result in a handicap, i.e., a social or environmental disadvantage.

Hence, the correct sequence is disease → impairment → disability → handicap.

84. (b) Serum cholesterol

Routine antenatal screening generally includes tests for syphilis (VDRL/RPR), gestational diabetes (glucose challenge or tolerance testing), and in many settings, maternal serum markers (like alpha-fetoprotein) to screen for neural tube defects. Serum cholesterol assessment is not part of standard universal antenatal screening. While dyslipidemia might be incidentally evaluated, it is not routinely mandated in normal pregnancy screening protocols.

85. (c) Proportion of false negatives is high

When deciding on a screening program, ideal criteria include: the disease has sufficient prevalence, it poses a significant health burden (often serious or potentially lethal), and the test chosen has high sensitivity and specificity to minimize false results. A high proportion of false negatives is contrary to good screening: we want as few missed cases as possible (low false negatives). Hence, stating "proportion of false negatives is high" is not a true or desirable attribute for a screening test.

86. (c) 8/3

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	Cases (BC+)	Controls (BC–)	Total
Obese	120	60	180
Non-obese	180	240	420
Total	300	300	600

Odds of obesity among cases = 120/180 = 0.67
Odds of obesity among controls = 60/240 = 0.25
Odds ratio = (120/180) / (60/240)
= (120×240) / (180×60) = 8/3 ≈ 2.67.

87. (c) Percentage of total number of deaths that occur in a population to the number of deaths that are expected to occur.

The Standardized Mortality Ratio (SMR) is:
It compares observed mortality in a particular group to the mortality one would expect if that group had the same age-specific (or other factor-specific) mortality rates as a reference "standard" population. Thus, it is essentially the ratio (often expressed as a percentage) of actual deaths to expected deaths.

88. (d) 66.6%

Secondary attack rate (SAR) measures the spread of infection among susceptible contacts after a known case. Here, the two parents are immune and thus not susceptible. In total, there are four children; one is the index case, leaving three susceptible children. Out of those three, two become infected. Thus:

89. (b) 4.80

Relative risk (RR) = (Incidence in exposed) / (Incidence in non-exposed).
Incidence among OC users = 120 ÷ 200 = 0.60
Incidence among non-users = 10 ÷ 80 = 0.125
Hence,
This indicates the risk of pulmonary embolism is about 4.8 times higher in oral contraceptive users than in non-users.

90. (c) Case control and Cohort studies

Both case-control and cohort studies are observational epidemiological designs used to explore associations between exposures (risk factors) and outcomes. Case-control studies start with cases (people with the outcome) and controls (without) and look retrospectively for exposure differences, estimating odds ratios. Cohort studies follow exposed and unexposed groups forward in time to determine incidence, allowing calculation of relative risk. These two methods are cornerstone designs to identify risk factors and quantify the magnitude of risk (degree of association).

91. (c) Unpaired t-Test

When comparing the mean of a continuous variable (e.g., haemoglobin concentration) between two independent groups (two different sets of antenatal mothers), the appropriate statistical test is the Unpaired (independent-samples) t-test. A paired t-test is used when the same subjects are measured twice (paired data). Chi-square tests associations between categorical variables, and ANOVA is for comparing means among more than two groups. Thus, an unpaired t-test best fits comparing two separate groups' mean haemoglobin levels.

92. (c) 570

First, 19% of the total population (5000) represents the number of eligible couples:

$$19\% \text{ of } 5000 = 0.19 \times 5000 = 950.$$

A couple protection rate (CPR) of 60% means 60% of these 950 couples need contraceptive coverage:

$$60\% \textit{ of } 950 = 0.60 \times 950 = 570.$$

Therefore, 570 eligible couples must be covered to achieve a CPR of 60%.

93. (b) Oseltamivir

Oseltamivir (a neuraminidase inhibitor) is recommended for both treatment and prophylaxis of influenza A (including pandemic H1N1) in exposed or high-risk individuals. Zanamivir is another neuraminidase inhibitor used mainly by inhalation but is less convenient and can pose challenges for prophylactic use in some patients. Ribavirin is used for severe RSV infections and certain viral hemorrhagic fevers. Amantadine is effective against some strains of influenza A but is no longer the primary prophylactic agent for H1N1.

94. (b) Anterolateral aspect of thigh

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For infants and young children, the anterolateral aspect of the thigh is the preferred intramuscular injection site for Hepatitis B (and many other routine) vaccines. This region has well-developed muscle and less subcutaneous fat, improving vaccine immunogenicity and reducing injury to underlying structures. The deltoid region is often used for older children and adults. The gluteal area is discouraged in young children because of potential reduced absorption and risk of sciatic nerve injury.

95. (c) Type–2 only

Oral Polio Vaccine (OPV) contains attenuated strains of polio virus types 1, 2, and 3. Historically, type 2 in OPV was known to be most commonly implicated in vaccine-associated paralytic poliomyelitis (VAPP) because it can undergo reversion to a more neurovirulent form. Consequently, newer bivalent OPVs often exclude type 2. Most VAPP cases worldwide had been linked to the type 2 component, leading to the shift away from trivalent OPV to minimize such occurrences.

96. (c) Reduce the incidence of severe pneumonia by 90%...

According to WHO's GAPPD targets, the plan aims to reduce pneumonia mortality in children <5 to below 3 per 1000, reduce diarrhea mortality to below 1 per 1000, and reduce the incidence of severe pneumonia by 75% (comparing with 2010). Similarly, severe diarrhea incidence is targeted for a 75% reduction. Hence, "Reduce the incidence of severe pneumonia by 90%" is the incorrect statement (the actual target is 75%).

97. (b) Inverse

Multiple epidemiological studies have noted an inverse association between hardness of drinking water (i.e., higher levels of certain minerals, notably calcium and magnesium) and cardiovascular mortality. Populations consuming "hard" water often exhibit lower rates of cardiovascular disease. Although some debate exists about the exact mechanisms, magnesium in hard water is thought to be cardioprotective. Hence, the recognized overall correlation is that higher water hardness is linked to lower cardiovascular death rates.

98. (c) Human adult body contains about 50 g of Magnesium

A normal adult body typically contains around 20–25 g of total magnesium, with about half deposited in bones. Magnesium is indeed essential for many enzymatic and metabolic processes, including those involving calcium and potassium homeostasis. The recommended daily dietary intake of magnesium for adults is generally in the range of 300–400 mg. Hence, saying an adult body contains 50 g of magnesium is too high and thus not accurate.

99. (a) Groundnut oil

Groundnut (peanut) oil typically has a high proportion of mono-unsaturated fatty acids (MUFA) and a moderate amount of linoleic acid (a polyunsaturated fatty acid). By contrast, safflower oil has very high linoleic acid, flax seed oil is rich in alpha-linolenic acid (another polyunsaturated fatty acid), and palm kernel oil is predominantly saturated. Consequently, for a balance of MUFA and moderate linoleic acid, groundnut oil is the best fit among these options.

100. (d) Zinc

Zinc deficiency in pregnancy has been linked to poor outcomes, including intrauterine growth restriction (IUGR), preterm birth, and even certain congenital anomalies (like neural tube defects). Adequate zinc is crucial for cellular growth, nucleic acid metabolism, and protein synthesis. While copper, selenium, and other trace minerals are also important, the deficiency most characteristically associated with adverse pregnancy outcomes and congenital malformations (such as anencephaly) is zinc deficiency.

101. (b) Normal

First, calculate BMI = weight (kg) ÷ [height (m)]^2 = 73 ÷ (1.75)^2 = 73 ÷ 3.0625 ≈ 23.85.

WHO BMI classification for adults:

1. <18.5 = Underweight
2. 18.5–24.9 = Normal
3. 25–29.9 = Overweight

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if breastfeeding. Hence, 1, 2, and 4 are valid immediate choices.

72. (c) Bartholin's abscess

Bartholin's gland is located at the posterior aspect of the vaginal introitus (often near the 4 o'clock or 8 o'clock position). Infection or blockage of its duct can lead to a Bartholin's cyst or progress to a painful abscess, causing unilateral swelling, redness, and tenderness in the posterior part of the labium minus. Uterovaginal prolapse or uterine inversion presents differently, and Trichomoniasis typically causes frothy, malodorous discharge rather than a localized fluctuant tender swelling.

73. (a) Submucosal

Among fibroid (leiomyoma) types, submucosal fibroids are most strongly linked to implantation failure and recurrent early pregnancy loss because they distort the endometrial cavity. Even small submucosal fibroids may interfere with embryo implantation and early fetal development. In contrast, intramural and subserosal fibroids do not typically project into the uterine cavity. Cervical fibroids are relatively uncommon and more often present with labor/delivery issues. Thus, submucosal fibroids pose the highest risk of recurrent miscarriage.

74. (c) Laparoscopy

When a hysterosalpingogram (HSG) suggests tubal blockage, the next logical step is to evaluate and possibly correct the cause surgically. Diagnostic laparoscopy allows direct visualization of the pelvis, assessment of the tubes, and potentially tubal cannulation or surgical repair if feasible. Simply giving ovulation-induction agents (like clomiphene or gonadotropins) or doing intrauterine insemination will not help if the tubes truly are blocked. Hence, laparoscopy is the best next step to confirm and manage tubal obstruction.

75. (b) Levonorgestrel intrauterine device

In a patient with hypertension plus heavy/painful periods, the Levonorgestrel Intrauterine System (LNG-IUS) is particularly beneficial. It exerts a local progestin effect that reduces menstrual bleeding and helps with dysmenorrhea. Copper IUD can worsen menstrual flow and cramping. Combined oral contraceptive pills are relatively contraindicated in older women with chronic hypertension due to increased vascular risks. Sterilization (tubal ligation) prevents pregnancy but does not address menorrhagia. Hence, LNG-IUS is the most suitable choice.

76. (a) Ranitidine

Certain drugs such as rifampicin, barbiturates, some antiepileptics (e.g., phenytoin, carbamazepine), and certain broad-spectrum antibiotics can induce hepatic enzymes or alter gut flora, thus reducing oral contraceptive levels and leading to higher failure rates. Ranitidine, an H_2 receptor blocker for acid suppression, does not significantly impact oral contraceptive metabolism. Hence, ranitidine does not commonly interfere with the efficacy of combined oral contraceptive pills.

77. (b) ACE-inhibitors

ACE inhibitors (e.g., enalapril, lisinopril) are contraindicated in pregnancy due to fetal renal toxicity, oligohydramnios, and other adverse effects. In contrast, labetalol, alpha-methyldopa, and nifedipine are recognized antihypertensives that can be used safely in pregnancy. ACE inhibitors are particularly harmful in the second and third trimesters, necessitating discontinuation once pregnancy is confirmed or planned.

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78. (c) Isthmus

The isthmus of the fallopian tube is a narrow, muscular segment close to the uterus. It is the most common site for a tubal ligation (tubectomy) procedure because it is anatomically accessible and less vascular than the fimbrial portion. The ampulla is wider and is where fertilization often occurs, while the infundibulum is the funnel-shaped distal segment near the fimbriae, and the cornua refers to where the tube enters the uterine cavity. Surgical ligation is more straightforward and secure in the isthmus.

79. (d) Diabetes mellitus

programs. The Teryl (Jeryl) Lynn, L-Zagreb, and RIT 4385 strains are more reliably protective and favored internationally.

109. (b) Roleplaying

A "mass approach" in health education is one that can reach very large populations simultaneously—for example, the Internet, posters, billboards, direct mail, television, radio, etc. Roleplaying is more of a group-focused or interpersonal technique, typically used in small-group learning sessions or workshops, not a broad, population-wide channel. Hence, roleplaying does not qualify as a mass method, whereas the other listed options can be used to communicate messages to large audiences at once.

110. (b) Ministry of Women and Child Development

The Integrated Child Protection Scheme (ICPS) is a government program in India aimed at protecting children in need of care and protection. It operates under the purview of the Ministry of Women and Child Development. This Ministry handles child welfare, including various programs to safeguard children's rights and well-being, while the Ministry of Health and Family Welfare focuses on health services, the Ministry of AYUSH on traditional medicine systems, and the Ministry of HRD (now Education) on schooling and related policies.

111. (d) HIV infection-symptomatic

Absolute contraindications to BCG vaccination typically involve severe immunocompromise, such as symptomatic HIV infection or other profound immunodeficiency. Neither low birth weight, prematurity, nor maternal TB history alone disqualifies the infant from receiving BCG. In fact, BCG is often given at birth (or soon after) in many countries. However, severely symptomatic HIV-positive newborns risk disseminated disease from the live-attenuated BCG, making that a specific contraindication.

112. (b) Zinc deficiency

Under RBSK, four major categories are screened—"4 Ds": Defects at birth, Diseases in children, Deficiencies, and Developmental delays. Common "Deficiencies" specifically noted include iron deficiency anemia, Vitamin A and Vitamin D deficiency, iodine deficiency, and severe acute malnutrition. Zinc deficiency is not one of the principal nutritional deficiencies listed in RBSK's standard screening. While zinc is important clinically, RBSK's established protocol focuses on more prevalent or historically recognized deficiencies in Indian children.

113. (c) Once a week for first month and then once fortnightly

Upon discharge of a severely malnourished child from an NRC, government guidelines recommend close follow-up to ensure continued nutritional recovery. Typically, the child is visited or checked by an Anganwadi Worker weekly for about 4 weeks, ensuring feeding practices, weight gain, and overall health are on track. Afterward, visits shift to a fortnightly schedule for ongoing monitoring until the child stabilizes nutritionally. Thus, option (c) aligns with these standard follow-up recommendations.

114. (d) Complications during ANC, PNC are not covered

Under Janani Shishu Suraksha Karyakram (JSSK), the government guarantees free and cashless services to pregnant women delivering in public health facilities, covering normal and cesarean deliveries, free diet, diagnostics, medications, and blood transfusions (if needed), plus cost coverage for complications in antenatal and postnatal periods. Hence, saying that "complications during ANC, PNC are not covered" contradicts the program's provisions, making (d) the correct "EXCEPT."

115. (a) Piperazine

For hookworm infections, recommended single-dose treatments include Albendazole (often 400 mg), Mebendazole, Levamisole, or Pyrantel pamoate. These drugs efficiently reduce worm burden in one or few doses. Piperazine is primarily used for roundworm (Ascaris lumbricoides) or pinworm (Enterobius vermicularis) and typically is not a first-line single-dose agent for hookworm. Hence, Piperazine is the correct "EXCEPT" regarding

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QUESTION PAPER 2018

1. What are the characteristics of ideal health indicators?
   (a) They should be valid, reliable, sensitive, specific, feasible and relevant
   (b) They should be mainly valid, reliable and sensitive but need not be specific
   (c) They should be mainly valid, reliable and feasible but need not be sensitive
   (d) They should be mainly valid, reliable and relevant but need not be feasible

2. Which one of the following statements regarding predictive value of a positive test is true?
   (a) It does not tell about diagnostic power of test
   (b) The more prevalent the disease, the less accurate the test is
   (c) It tells the probability that a patient with positive test has the disease in question
   (d) It tells the probability that a patient with positive test does not have the disease in question

3. The yield of a screening test CAN NOT be increased by which of the following?
   (a) Including entire population
   (b) Including high risk population
   (c) Improved sensitivity
   (d) Improved specificity

4. Which one of the following statements regarding the growth chart is NOT true?
   (a) It is used as a tool for growth monitoring and diagnosis
   (b) It is used for planning and policy making
   (c) It is used as tool for action against the Anganwadi worker
   (d) It is used as tool for teaching and evaluation of effectiveness of programme

5. Flattening of the growth curve in the growth chart signifies:
   (a) Child is on a healthy path
   (b) Child is severely malnourished
   (c) Child is showing signs of growth failure
   (d) Child does not need special care

6. A well of contaminated water resulted in an outbreak of diarrhoea in a community. Which type of epidemic will this exposure present with?
   1. Propagated epidemic
   2. Common source – continuous exposure
   3. Common source – point exposure

   Select the correct answer using the codes given below:
   (a) 1 and 2 only
   (b) 3 only
   (c) 1, 2 and 3
   (d) 2 only

7. Which one of the following experiments/ trials is NOT a part of non-randomized trial?
   (a) Uncontrolled trial
   (b) Risk factor trial
   (c) Natural experiment
   (d) Before and after comparison studies

8. What is the relative risk of developing tuberculosis among tobacco users as per the information given below?

Tobacco user	**Tuberculosis**		**Total**
|	Yes	No	|
Yes	40	80	120
No	10	70	80
Total	50	150	200

   (a) 0.48
   (b) 1.33
   (c) 2.67
   (d) 3.90

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4. ≥30 = Obese

Thus, with a BMI around 23.85, this individual falls within the normal range.

102. (c) A 10 percent relative reduction in mean population intake of salt/sodium

The WHO 2013–2020 global NCD targets include:

1. 10% relative reduction in harmful use of alcohol,
2. 10% relative reduction in prevalence of insufficient physical activity,
3. 30% relative reduction in mean population salt/sodium intake,
4. Halt the rise in diabetes and obesity, etc.

Hence, saying "10% relative reduction in salt" is not correct. The official goal is a 30% reduction in salt intake to address hypertension and related NCDs.

103. (d) Vaccine development for streptococcal infection

The Jai Vigyan Mission Mode project focuses on rheumatic fever (RF) and rheumatic heart disease (RHD) control in India by:

1. Researching streptococcal epidemiology,
2. Registering RF/RHD cases,
3. Implementing antibiotic treatment or prophylaxis for strep infections to prevent rheumatic fever.

However, vaccine development against group A Streptococcus, while scientifically of interest, is not officially part of this mission project's stated goals. Thus, that is the "EXCEPT" item.

104. (a) 1 only

Indicators that measure mortality reduction or changes in disease burden at a population level are typically categorized as "impact" indicators. SDG 3.4—reducing premature mortality from NCDs by one-third—is an outcome/impact measure reflecting how interventions collectively affect health outcomes. "Coverage/risk factor" indicators track how many people receive an intervention or the prevalence of risk behaviors, not final mortality results. Thus, SDG target 3.4 aligns with an impact indicator (statement 1) rather than coverage or risk-factor measures.

105. (a) Silicosis

Among the pneumoconioses, silicosis (due to inhalation of crystalline silica dust) remains a leading cause of chronic respiratory disability and mortality worldwide, especially in mining, stone quarrying, and foundry work. Anthracosis ("black lung") is linked to coal dust exposure, byssinosis to cotton dust, and asbestosis to asbestos fibers (which also predisposes to malignancies). Although asbestosis can be very serious, silicosis is generally considered the most common cause of permanent disability and high mortality rates among occupational lung diseases globally.

106. (d) Down's syndrome

An inborn error of metabolism refers to a genetic defect in an enzyme or metabolic pathway (e.g., Tay-Sachs, Maple Syrup Urine Disease, PKU). Neural tube defects are malformations often linked to inadequate folate or multifactorial etiologies, but are not typically classified as metabolic errors. Down's syndrome (Trisomy 21) is a chromosomal abnormality, not a metabolic disorder. Among these choices, Down's is most clearly not an inborn error of metabolism.

107. (d) A father aged 50 year or more

Common indications for amniocentesis include advanced maternal age (≥35 years), previous child with a chromosomal abnormality, or parental chromosomal rearrangements that risk aneuploidy in the fetus. These factors substantially raise the likelihood of genetic anomalies. Elevated paternal age does increase certain risks (like new dominant mutations), but it is not a standard recommended indication for routine amniocentesis in guidelines. Hence, father aged 50+ is the "EXCEPT."

108. (b) Rubini

Several mumps vaccine strains (e.g., L-Zagreb, RIT 4385, Jeryl Lynn) are considered acceptable and have demonstrated adequate immunogenicity and safety. However, the Rubini strain is associated with poor immunogenic response and high vaccine failure rates. Consequently, WHO recommends against using Rubini strain in national immunization

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9. What is the attributable risk of tobacco for developing tuberculosis as per the information given below?

Tobacco users	Tuberculosis		Total
|	Present	Absent	|
Yes	40	80	120
No	10	70	80
Total	50	150	200

(a) 50.5%
(b) 62.5%
(c) 70.6%
(d) 80.6%

10. What is the sensitivity of EEG for detecting brain tumours as per the information given below?

Brain tumour	Absent	Present
EEG result Positive	54,000	36
EEG result Negative	3,06,000	4
Total	3,60,000	40

(a) 90%
(b) 85%
(c) 0.07%
(d) 99.99%

11. Which sign is most important in deciding severe pneumonia in a child?
(a) Fast breathing
(b) Nasal flaring
(c) Chest indrawing
(d) Grunting

12. Varicella-Zoster Immunoglobulin (VZIG) is NOT recommended for which of the exposed susceptible individuals?
(a) Newborn
(b) HIV/AIDS positive
(c) Healthy sibling
(d) Pregnant women

13. Carriers of avirulent organism are called:
(a) Incubatory carriers
(b) Convalescent carriers
(c) Healthy carrier
(d) Pseudo carriers

14. A cohort study was conducted among 200 men aged 20–30 years in Rampur village. Out of 200, 120 men were tobacco users and rest 80 didn't take any form of tobacco. At the end of one year, 40 men among tobacco users and 10 men among non-tobacco users developed tuberculosis. The incidence of tuberculosis among tobacco users is:
(a) 12.5 per 100 men / year
(b) 25.0 per 100 men / year
(c) 30.0 per 100 men / year
(d) 33.3 per 100 men / year

15. The data regarding two exposures A and B, associated with a disease X in a community is given below:
Which one of the following assertions and the reasons given is correct?
(a) Preference to control exposure B as it has a higher relative risk
(b) Preference to control exposure A, because it has a higher population attributable risk
(c) Preference to control exposure B, because it has a higher attributable risk
(d) Cannot decide, as the precedence of exposure in the community has not been mentioned

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16. Which of the following types of study designs will be most appropriate to find out the association between mobile phone radiation exposure and cancer?
(a) Cross-sectional
(b) Case-control
(c) Single-arm interventional
(d) Case-series

17. The villages A and B have the following age compositions:

Age (years)	Mid-year population (Village A)	Mid-year population (Village B)
0–4	8000	4000
5–9	4000	2000
10–19	5000	3000
20–39	7000	8000

55. A 25 year old, G2P1L1 came with amenorrhea of two and half months followed by bleeding PV and pain abdomen. On examination cervical OS is open with slight bleeding. The uterus is 10 weeks size with no tenderness in the fornices. The probable clinical diagnosis is:
(a) Ectopic pregnancy
(b) Incomplete abortion
(c) Missed abortion
(d) Inevitable abortion

56. Which one of the following statements regarding intrauterine growth restriction is NOT correct?
(a) Defined according to biparietal diameter
(b) Doppler studies are indicated
(c) There is danger of fetal asphyxia during delivery
(d) Generally not seen in women with gestational diabetes

57. A 15 year old girl comes to the gynae casualty with a relative with complaints of amenorrhoea 2 months. The urine pregnancy test is positive, ultrasound confirms 8 weeks pregnancy. The attendants are not willing to file a police case. What should the treating doctor do?
(a) Take consent for abortion and proceed
(b) Inform the police and make MLC
(c) Take parents consent for MTP
(d) None of these

58. Which of the following is an absolute contraindication for use of oral contraceptive pills?
(a) Epilepsy
(b) Smoking
(c) Focal Migraine
(d) Bronchial Asthma

59. The amount of Ethinyl Estradiol in third generation combined oral contraceptive pills is:
(a) 10–20 mcg
(b) 20–30 mcg
(c) 30–35 mcg
(d) 35–50 mcg

60. Which one of the following clinical situations is NOT ideal to perform female sterilization procedure?
(a) Postmenstrual period
(b) 7 days postpartum
(c) Concurrent with MTP
(d) 3 months post abortion

61. Cardiac diseases in pregnancy which have major risk of maternal mortality are
1. Pulmonary hypertension
2. Aortic coarctation with valvular involvement
3. Atrial septal defect
4. Mitral stenosis

Select the correct answer using the code given below:
(a) 1 and 4
(b) 2 and 3
(c) 1 and 2
(d) 3 and 4

62. Pregnancy can be terminated at any gestation if the fetus is diagnosed to have:
(a) Duodenal atresia
(b) Bilateral talipes
(c) Anencephaly
(d) Hydrocephalus

63. Which one of the following is NOT a cause of recurrent spontaneous abortion?
(a) Chromosomal abnormality
(b) Antiphospholipid syndrome
(c) Rubella infection
(d) Inherited thrombophilia

64. The congenital abnormality which is invariably lethal is:
1. Anencephaly
2. Transposition of great vessel
3. Down Syndrome

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 3
(c) 1 and 2
(d) 2 and 3

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26. These toxic effects like abdominal colic, obstinate constipation, loss of appetite, anaemia, stippling of red cells and blue line on gums are due to exposure to:
(a) Carbon monoxide
(b) Asbestos
(c) Lead
(d) Radiation

27. Which one of the following conditions can be screened during neonatal screening by biochemical tests?
(a) Congenital dislocation of hip
(b) Congenital hypothyroidism
(c) Chromosomal abnormalities
(d) Congenital rubella

28. Which of the following is NOT a mass approach in health communication?
(a) Folk methods
(b) Role play
(c) Posters
(d) Health exhibition

29. Which of the following are non–modifiable risk factors for hypertension?
1. Age
2. Sex
3. Genetic factors

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 2 only
(c) 1, 2 and 3
(d) 2 and 3 only

30. What is the correct daily dose of Iron and Folic acid to be prescribed to a child aged 12 years?
(a) 20 mg elemental Iron and 100 mcg folic acid
(b) 30 mg elemental Iron and 250 mcg folic acid
(c) 60 mg elemental Iron and 300 mcg folic acid
(d) 100 mg elemental Iron and 500 mcg folic acid

31. When should breastfeeding be initiated to an infant born via a normal delivery?
(a) Within half an hour
(b) Within one hour of birth
(c) Within 2–4 hours of birth
(d) After 4 hours of birth

32. As per biomedical waste management rule 2016 the metallic body implants should be discarded in which of the following?
(a) Yellow colored non-chlorinated plastic bag
(b) Red colored non-chlorinated plastic bag
(c) Card board box with blue colored marking
(d) Separate collection system

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33. Which of the following is NOT a quantitative method in the management of health services?
(a) Network analysis
(b) Management by objectives
(c) System analysis
(d) Planning programming budgeting system

34. India is in which stage of the demographic cycle?
(a) High stationary
(b) Early expanding
(c) Late expanding
(d) Low stationary

35. Manual Vacuum Aspiration (MVA) that has been introduced in primary health centres helps in reducing which of the following indices?
(a) Infant mortality
(b) Neonatal mortality
(c) Preterm mortality
(d) Maternal mortality

36. The agreement (yes/no) between two observers is statistically measured by:
(a) Specificity
(b) Sensitivity
(c) Correlation coefficient
(d) Kappa coefficient

92. Mainstay of an accurate diagnosis of pancreatic injury following blunt abdominal trauma is:
(a) Computed Tomogram
(b) Diagnostic peritoneal lavage
(c) USG abdomen
(d) MRI abdomen

93. Pancreatic pseudocysts developing complications are best managed by:
(a) Conservative treatment
(b) Radiologically guided interventions
(c) External drainage
(d) Surgery

94. Which one of the following regarding absorbable meshes is NOT true?
(a) They are made of polyglycolic acid fibre
(b) They are used in temporary abdominal wall closure
(c) They are used to buttress sutured repair
(d) They show very good results as collagen deposition is maximum

95. Which one of the following is NOT a surgical modality for management of femoral hernia?
(a) Lotheissen's (Inguinal) operation
(b) The high approach (Mc Evedy)
(c) The low approach (Lockwood)
(d) The canal ring narrowing operation (Lytle's)

96. 'Triangle of Doom' dissected and seen during Laparoscopic inguinal hernia repair is bounded by all EXCEPT:
(a) Vas deferens
(b) Cord structures
(c) Peritoneal fold
(d) Inferior epigastric artery

97. Antro-choanal polyp always arises from:
(a) Maxillary sinus
(b) Posterior ethmoidal cells
(c) Posterior end of the septum
(d) Nasopharynx

98. Paralytic ileus is a type of:
(a) Dynamic obstruction
(b) Adynamic obstruction
(c) Inflammatory obstruction
(d) Drug induced obstruction

99. Indication of Coronary artery bypass grafting (CABG) is:
(a) More than 25% stenosis of critical left main stem
(b) More than 25% stenosis of proximal left anterior interventricular artery
(c) Triple vessel disease
(d) Deranged Stress Echocardiography report

100. Normal anatomical narrowing of ureter are present in all EXCEPT:
(a) Ureteropelvic junction
(b) Crossing the abdominal aorta
(c) Entering bladder wall
(d) Ureteric orifice

101. Which one of the following is NOT correct regarding Adenocarcinoma of the kidney?
(a) It is also called Grawitz tumour
(b) It always presents with haematuria
(c) It may be associated with Pyrexia of unknown origin
(d) Renal vein extention may embolize to lungs

102. Which one of the following regarding abdominal paediatric surgery is correct?
(a) Transverse abdominal incision is always used
(b) Incision can be closed with absorbable suture
(c) Bowel must be always anastomosed in double layer
(d) Skin over abdomen can never be closed with subcuticular sutures

103. Genetic disorder predisposing patients to develop Berry aneurysm includes all EXCEPT:
(a) Adult polycystic kidney
(b) Fibromuscular dysplasia
(c) Neurofibromatosis Type II

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46. Which one of the following is true regarding normal menstrual physiology?
(a) Ovulation occurs after 48 hours of LH surge
(b) Oestradiol levels peak at 48 hours prior to ovulation
(c) Ovulation occurs after 12 hours of LH peak
(d) Threshold of LH surge generally persists for 48 hours

47. Which one of the following is NOT a feature of Candida Vaginitis?
(a) Pruritus is out of proportion to discharge
(b) Discharge is thick and curdy
(c) Yeast-buds and pseudohyphae forms can be seen under the microscope
(d) Metronidazole is the treatment of choice

48. Which of the following is NOT a high risk factor for developing endometrial carcinoma?
(a) Delayed menopause
(b) Hypertension
(c) Multiparity
(d) Obesity

49. All of the following are the features of functional ovarian cyst EXCEPT:
(a) Usually < 7 cm in diameter
(b) Spontaneous regression occurs
(c) Unilocular
(d) Usually symptomatic

50. Gestational trophoblastic disease is a spectrum comprising which of the following entities?
1. Complete Hydatidiform mole
2. Partial Hydatidiform mole
3. Invasive mole
4. Chorio carcinoma

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 2, 3 and 4
(d) 1 and 4 only

51. Which of the following is NOT a component of Fothergill's operation as a conservative surgery for uterovaginal prolapse?
(a) Amputation of cervix
(b) Plication of Mackenrodt's ligaments
(c) Anterior colporrhaphy
(d) Cervicopexy

52. Which one of the following statements is NOT true regarding general physiological changes after delivery?
(a) Pulse may be raised on first day
(b) Temperature should not be above 99°F
(c) Blood volume returns to normal by second week
(d) Cardiac output remains unchanged after delivery

53. Consider following statements regarding Beta Thalassemia in pregnancy:
1. There is low MCH and MCV
2. Total Iron binding capacity may be elevated or normal
3. HbA2 more than 3.5% is seen in Haemoglobin Electrophoresis

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

54. A 20 year old Primigravida, comes at 35 weeks of gestation with complaints of swelling of feet. On examination her blood pressure is 170/110 mm Hg on 2 occasions; urine examination shows proteinuria. Which one of the following statements regarding her management is NOT true?
(a) Can be labelled as Preeclampsia
(b) Requires urgent admission
(c) Injection Dexamethasone is to be given for fetal lung maturity
(d) Both maternal and fetal monitoring are required

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73. Which of the following statements regarding β-Human chorionic Gonadotropin are NOT correct?
1. It is a glycoprotein hormone.
2. Serum levels increase in pregnancy, germ cells tumor and gestational trophoblastic disease
3. Its levels are same in single and multiple pregnancy
4. It has common α-subunit with other hormones FSH, LH and TSH.

Select the correct answer using the codes given below:
(a) 1, 2 and 4
(b) 1, 2 and 3
(c) 2, 3 and 4
(d) 1, 3 and 4

74. Which one of the following is NOT an emergency contraception method?
(a) Levonorgestrel
(b) Norplant
(c) Intra uterine contraceptive device
(d) High dose oral contraceptive pill

75. All of the following statements are correct about vasectomy EXCEPT:
(a) No Scalpel Vasectomy (NSV) was first developed in China.
(b) It increases the incidence of testicular cancer.
(c) It is less time consuming than tubectomy.
(d) Addition contraception should be used for 3 months after vasectomy.

76. Which of the statement regarding anemia in pregnancy is NOT true?
(a) Iron deficiency anemia is most common in Tropics
(b) Faulty dietary habit is one of the factors responsible for anemia
(c) Mild anemia is most common
(d) If mother is severely anemic, the fetus is also severely anemic

77. Which one of the following statements about male sterilization is NOT true?
(a) It is safer and less expensive
(b) Most men develop antisperm antibodies
(c) It has a low failure rate
(d) It is performed under general anaesthesia

78. Which of the following is NOT a method of second Trimester abortion?
(a) Mifepristone and PGE_1
(b) PGE_2 analog
(c) Intra-amniotic KCl instillation
(d) Hysterotomy

79. In the process of MTP (Medical Termination of Pregnancy) done by suction and evacuation, it was realized that perforation of uterus occurred with cannula. The next step should be:
(a) Laparotomy with exploration of bowel
(b) Manual vacuum aspiration
(c) Wait and watch
(d) Complete the evacuation with curette

80. Consider the following statements regarding MTP (Medical Termination of Pregnancy):
1. Suction and evacuation can be done up till 12 weeks.
2. Medical methods can be used up till 10 weeks.
3. Manual vacuum aspiration (MVA) syringe can be used up to 6 weeks.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 and 3
(c) 2 only
(d) 1 and 3

81. Cellulitis is:
(a) A suppurative invasive infection of skin and subcutaneous tissues
(b) A nonsuppurative invasive infection of tissues
(c) Infection caused by Gram negative bacilli
(d) Infection caused by anaerobic Streptococci

82. Following are the factors for increased risk of wound infection EXCEPT:
(a) Malnutrition
(b) Good blood supply

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65. For vaginal breech delivery, ideal selection criteria would include:
1. Fetus not compromised
2. Adequate pelvis
3. Extended breech presentation
4. Estimated fetal weight < 3.5 kg

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 1, 2, 3 and 4
(c) 1, 3 and 4 only
(d) 2 and 4 only

66. Consider the following presentations:
1. Brow presentation
2. Left mento anterior position
3. Occipito posterior position
4. Breech presentation

In which of the above vaginal delivery is NOT possible?
(a) 1, 2 and 3
(b) 1 and 3 only
(c) 1 only
(d) 4 only

67. The blood supply of uterus is from:
1. Uterine artery
2. Ovarian artery
3. Pudendal artery
4. Superior vesical artery

Select the correct answer using the code given below:
(a) 1 and 2
(b) 2 and 4
(c) 1 and 3
(d) 3 and 4

68. Which one of the following regarding amniotic fluid is true?
(a) The volume is highest at 28 weeks
(b) It reveals information about fetal lung maturity and wellbeing
(c) It is decreased in duodenal atresia in baby
(d) It is decreased in gestational diabetes

69. Consider the following statements regarding changes in pregnancy:
1. Plasma volume increases up to 30–50%
2. Pregnancy is a hypercoagulable state
3. Hematocrit is decreased
4. Total plasma proteins increases

Which of the statements given above is/are correct?
(a) 1 only
(b) 1, 2, 3 and 4
(c) 1 and 2 only
(d) 3 and 4 only

70. Which one of the following statements regarding anatomy of fetal head is NOT true?
(a) Coronal suture separates frontal bones from parietal bones
(b) Lambdoid suture separates the two parietal bones
(c) Frontal suture separates the two frontal bones
(d) Bregma is a diamond shaped space at junction of coronal and sagittal sutures

71. A 30 year old lady, mother of 3 children presents with mass descending per vaginum. On examination it is found to have stage 3 prolapse, moderate cystocele, no posterior vaginal wall prolapse. The recommended surgery would be:
1. Cystocele repair
2. Rectocele repair
3. Manchester operation
4. Vaginal hysterectomy

Select the correct answer using the codes given below:
(a) 1 and 3 only
(b) 1, 2 and 3
(c) 3 only
(d) 1, 2 and 4

72. A 50 year old postmenopausal woman comes with complaints of bleeding per vaginum. Which one of the following investigations is NOT required?
(a) Endometrial biopsy
(b) Diagnostic laparoscopy
(c) Hysteroscopy
(d) Pap smear

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40–59	6000	6000
60 and above	7000	10000

Which of the following is the best indicator for comparing the death rates of these two villages?
(a) Crude death rate
(b) Age standardized death rate
(c) Specific death rate
(d) Proportional mortality rate

18. Which of the following is/are suggested by rising incidence rates of any disease?
1. Need for a new disease control programme
2. Improvement in reporting practices
3. Change in the etiology of the disease

Select the correct answer using the codes given below:
(a) 1 and 3 only
(b) 1 only
(c) 1, 2 and 3
(d) 2 and 3 only

19. What constitutes the denominator in 'Total Dependency Ratio'?
(a) Population 15–45 years of age
(b) Mid year population
(c) Population 15–64 years of age
(d) Population less than 14 and more than 65 years of age

20. A pregnant woman in 2nd trimester of pregnancy from North Eastern State has been diagnosed with uncomplicated P. falciparum. She should be treated with:
(a) Artemether and Lumefantrine
(b) Artesunate and Sulphadoxine
(c) Artesunate, Sulphadoxine and Pyrimethamine
(d) Chlorine and Primaquine

21. By which one of the following studies can relative risk be best calculated?
(a) Cohort study
(b) Correlation study
(c) Case-control study
(d) Randomised control trial

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22. Orthotolidine (OT) test is done for determining residual free chlorine quantitatively and qualitatively. What is the colour of the solution after adding OT which indicates presence of free chlorine?
(a) Red
(b) Yellow
(c) Blue
(d) Green

23. Consider the following in respect of Navjat Shishu Suraksha Karyakram (NSSK):
1. It is a programme aimed to train health personnel in basic newborn care and resuscitation
2. It addresses care at birth issue (i.e. prevention of hypothermia, prevention of infection, early initiation of breastfeeding and basic newborn resuscitation)
3. The objective is to have a trained health person in basic newborn care and resuscitation unit at every delivery point

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 1, 2 and 3
(d) 2 and 3 only

24. The most important indicator for assessment of impact in Salt Iodization Programme is:
(a) Testing Iodine content of salt at consumer level
(b) Testing Iodine content of salt at production level
(c) Testing median urinary Iodine excretion
(d) Testing serum Iodine levels

25. Caisson's disease is usually seen in which group of workers?
(a) Cotton field agricultural workers
(b) Construction workers under sea level
(c) Workers in manufacture of gas
(d) Workers in radiation units

(c) Metabolic diseases (diabetes, uraemia)
(d) Immunosuppression

83. A 25 year old lady underwent exploratory laparotomy for bowel injury which happened while she underwent medical termination of pregnancy 2 days back. 24 hours after exploratory laparotomy her pulse is 106/m, respiratory rate 26/m, total leucocyte count 14000/cumm with blood urea 84 mg% and serum creatinine 2.0 mg/dL. The lady is having:
(a) Wound infection
(b) Systematic inflammatory response syndrome
(c) Sepsis syndrome
(d) Multisystem organ failure (MSOF)

84. A 22 year old young man came with history of occasional bleeding per rectum. On colonoscopy, numerous sessile polyps were seen in descending and sigmoid colon. On family history his elder brother was operated for thyroid malignancy. The young man should be advised:
(a) Prophylactic panproctocolectomy
(b) Prophylactic anterior resection
(c) Surveillance colonoscopy every 6 months
(d) Colonoscopic removal of all polyps

85. A 47 year old postmenopausal lady was on adjuvant hormonal treatment with Tamoxifen for 3 years for Carcinoma Breast. She came to Outpatient Department with history of passing blood clots per vagina. She is probably suffering from:
(a) Carcinoma Vulva
(b) Carcinoma Vagina
(c) Carcinoma Endometrium
(d) Uterine fibroid

86. Which of the following regarding blood supply of rectum is NOT true?
(a) Superior rectal artery is a direct continuation of Inferior mesenteric artery
(b) Middle rectal artery arises from external iliac artery and passes through the lateral ligaments into rectum
(c) Inferior rectal artery arises from internal pudendal artery
(d) Inferior rectal artery traverses the Alcock's canal into rectum

87. Gastric conduit after oesophageal resection is based upon:
(a) Right Gastroepiploic artery
(b) Short gastric vessels and Vasa brevia
(c) Left gastric artery
(d) Right gastric artery

88. A 70 year old male having comorbidities present with benign appearing parotid tumour. The best option is:
(a) Tumour enucleation
(b) Superficial Parotidectomy
(c) Aspiration biopsy confirmation
(d) Radio therapy

89. Fine Needle Aspiration Cytology (FNAC) is NOT conclusive in which one of the following thyroid swellings?
(a) Papillary carcinoma thyroid
(b) Follicular carcinoma thyroid
(c) Medullary carcinoma thyroid
(d) Thyroiditis

90. Patients with phlebographically confirmed deep vein thrombosis of the calf:
(a) can expect asymptomatic recovery if treated promptly with anticoagulant
(b) may be effectively treated with low-dose heparin
(c) may be effectively treated with pneumatic compression stockings
(d) are at risk for significant pulmonary embolism

91. Herceptin (Trastuzumab) is an immunotherapeutic agent used for:
(a) Carcinoma prostate
(b) Carcinoma breast
(c) Carcinoma rectum
(d) Ovarian malignancy

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37. How many post natal visits should be made by the ANM to the house of a low birth weight baby?
(a) 2
(b) 4
(c) 6
(d) 8

38. The difference between Type A and Type B sub centre as per Indian Public Health standards is in terms of:
(a) Labour room or delivery facility
(b) Staffing pattern
(c) Location
(d) Availability of drugs

39. Which of the following Screening methods for Disease is the least useful?
(a) Mass screening
(b) High risk group screening
(c) Multiphasic screening
(d) Selective screening

40. Which one of the following is an indicator for evaluation of impact of family planning?
(a) Family size
(b) Number of postpartum services availed
(c) Change in behaviour of people
(d) Community needs assessment

41. Consider the following hemodynamic changes occurring during pregnancy:
1. Increase in cardiac output
2. Increase in stroke volume
3. Increase in colloid oncotic pressure
4. Increase in pulse rate

Which of the statements given above are correct?
(a) 1, 3 and 4
(b) 1, 2 and 4
(c) 1, 2 and 3
(d) 2, 3 and 4

42. Which of the following are the hypotheses for the onset of Labor?
1. Uterine distension
2. Activation of fetal hypothalamic-pituitary-adrenal axis
3. Increase in prostaglandins
4. Increase in serum calcium levels

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 1 and 3 only
(d) 2, 3 and 4

43. Which of following statements regarding Puerperal sepsis are correct?
1. Multiple per vaginal examinations increase the risk
2. The responsible microorganisms are group A and B beta-haemolytic Streptococcus
3. Retained bits of placenta and membrane predispose
4. Vaginal packing can decrease the risk

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 4

44. In case of Labour complicated with cord prolapse, which of the following statements are correct?
1. Reposition the patient in exaggerated Sims position
2. To replace the cord in the vagina
3. To replace the cord inside the uterus
4. Early amniotomy can prevent cord prolapse

Select the correct answer using the code given below:
(a) 1, 2, 3 and 4
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 3, 4 only

45. The following are the contents of broad ligament EXCEPT:
(a) Fallopian tube
(b) Uterine and ovarian arteries with their branches
(c) Ovarian ligament
(d) Internal iliac artery

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(d) Marfan's syndrome

104. Which one of the following regarding Nasal polyps is NOT true?
(a) Nasal polyps are very painful to touch
(b) Simple polyps are bilateral
(c) Bleeding polyp may indicate malignancy
(d) Meningoecle must be excluded in children with polyps

105. Allen's test is used in Cardiac surgery:
(a) To select finger prick for blood glucose estimation
(b) When radial artery harvest is planned
(c) For evaluation of AV fistula
(d) To check warmth of hands

106. In a lateral facial wound, if facial nerve injury is suspected, it should be:
(a) Left alone
(b) Skin and subcutaneous flaps to be raised to cover the cut ends
(c) Primary repair should be attempted
(d) Secondary repair using microscope gives best result

107. Radiologic views used for fracture Mandible (body and Ramus) are all EXCEPT:
(a) Orthopantomogram
(b) Lateral obliques
(c) Lower occlusal
(d) Submentovertex

108. Mallory-Weiss tear causing haematemesis is seen over:
(a) Oesophagus
(b) Gastroesophageal junction
(c) Anterior wall of stomach
(d) Fundus of stomach

109. Which one of the following factors is NOT involved in the pathogenesis of Systematic inflammatory response syndrome (SIRS)?
(a) Increased cytokine production
(b) Abnormal nitric oxide synthesis
(c) Free radical production
(d) Microvascular occlusion

110. Sleeve Gastrectomy done for Morbid obesity is a:
(a) Restrictive procedure
(b) Reversible procedure
(c) Mildly restrictive and mainly malabsorptive
(d) Malabsorptive procedure only

111. Pre-operative Nutrition Screening in a patient with morbid obesity planned for Gastric Bypass includes all EXCEPT:
(a) Serum Magnesium
(b) Serum Calcium
(c) Serum Vitamin B12
(d) Serum Insulin

112. In postoperative care the long term risks after Bariatric Surgery include all EXCEPT:
(a) Protein Calorie Malnutrition
(b) Deep Vein Thrombosis
(c) Vitamin and Micronutrient depletion syndromes
(d) Weight regain

113. Hilton's method of Incision and drainage of abscess has the advantage of:
(a) Complete drainage of pus
(b) Avoids injury to underlying vessels and nerves
(c) Provides irrigation
(d) Heals without scar

114. Indications of computed tomography after head injury include all EXCEPT:
(a) Glasgow Coma Scale < 13 at any point
(b) Open depressed fracture
(c) Mild head injury in a 50 year old man
(d) Amnesia 30 minutes

115. Mondor's disease is:
(a) Thrombophlebitis of superficial veins of the breast and anterior chest wall
(b) Other name for tuberculosis of breast
(c) Rare type of chronic intramammary abscess
(d) Named after the scientist who first coined

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PAPER 2018 ANSWERS

1. (a) They should be valid, reliable, sensitive, specific, feasible and relevant

Ideal health indicators must accurately measure what they are intended to (valid), produce the same results when repeated (reliable), detect those truly with a condition (sensitive), exclude those without the condition (specific), be practical to implement (feasible), and be relevant to local priorities. These properties ensure that health indicators provide trustworthy data for assessing health programs, resource allocation, and policy decisions. If any of these attributes is lacking, the indicator's usefulness in guiding effective public health interventions diminishes.

2. (c) It tells the probability that a patient with positive test has the disease in question

The positive predictive value (PPV) is defined as the probability that someone who tests positive truly has the disease. In other words, PPV = True Positives ÷ (True Positives + False Positives). It rises with increasing disease prevalence because fewer of the positives will turn out to be false. Therefore, if a test result is positive in a population with high disease prevalence, it is more likely to represent a true positive. PPV is a key measure for judging the real-world utility of diagnostic tests.

3. (a) Including entire population

Yield refers to the number of previously unrecognized cases identified when a screening test is applied. Targeting high-risk groups (rather than the entire population) increases the prevalence within those screened and thus increases the absolute number of true cases detected for the resources used. Improving sensitivity increases the proportion of true positives identified. Improving specificity reduces false positives (thus improving predictive value) but does not directly increase the number of true cases found. Screening everyone indiscriminately tends to lower yield (proportionally) and cost-effectiveness.

4. (c) It is used as tool for action against the Anganwadi worker

Growth charts help health workers, parents, and policymakers monitor a child's physical development over time, identify growth faltering early, and make decisions regarding interventions or nutrition programs. They can be aggregated for planning and policy (e.g., resource allocation) and are also useful for training and evaluating effectiveness of maternal and child health initiatives. However, they are not intended to penalize or take disciplinary action against Anganwadi workers; rather, they provide data to support and improve child health strategies.

5. (c) Child is showing signs of growth failure

A normal growth curve on a weight-for-age or length/height-for-age chart should show a steady upward trend as a child grows. When the curve flattens, it indicates the child is not gaining sufficient weight or height as expected, which is termed "growth faltering." This can be an early sign of undernutrition, recurrent infections, or other health issues. Prompt intervention—nutritional assessment, dietary improvement, and management of infections—helps prevent progression to severe malnutrition and ensures the child returns to a healthy growth trajectory.

6. (d) 2 only

When a contaminated well is continually used by many individuals, it serves as a common source of infection over a sustained time, leading to a common source–continuous exposure epidemic. A point source outbreak occurs from a one-time exposure (e.g., a single meal), whereas a propagated epidemic describes person-to-person spread over multiple incubation periods (e.g., measles). Because people keep drawing water from the same contaminated well, the exposure is neither one-time nor person-to-person, making "common source–continuous exposure" the correct classification.

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the term 'Actinomycosis of Breast'

116. Sengstaken-Blakemore tube is used to control bleeding in:
(a) Renal trauma
(b) Bleeding varices
(c) Splenic injury in portal hypertension
(d) Duodenal ulcer bleed

117. Which one of the following regarding Pancreatic effusion is correct?
(a) Free fluid collection in Pleural cavity
(b) Never associated with abdominal collection
(c) Pancreatic stenting is to be done
(d) Percutaneous drainage under image guidance is necessary

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118. Which one of the following bone is affected in Keinbock's disease?
(a) Lunate bone
(b) Capitellum of the humerus
(c) Metatarsal
(d) Navicular bone

119. Which one of the following regarding management of acute wounds is NOT true?
(a) The whole patient should be examined according to ATLS principles
(b) Wounds should be examined, taking into consideration site and structures damaged
(c) Bleeding wounds should be elevated and a pressure pad applied
(d) Clamps should be used to stop all bleeding vessels

120. Risk Scoring System which can be used post operatively is:
(a) ASA → American Society of Anaesthesiologist
(b) MET → Metabolic Equivalent Task
(c) RCRI → Revised Cardiac Risk Index
(d) POSSUM → Physiologic and operative severity Score for enUmeration of Mortality and Morbidity

END

7. (b) Risk factor trial

Non-randomized trials (also called quasi-experimental studies) typically involve interventions or comparisons where participants are not allocated by random assignment. Examples include uncontrolled trials (no separate comparison group), before-and-after studies (the same group measured pre- and post-intervention), and natural experiments (where external factors create exposed vs. unexposed groups without researcher control). A "risk factor trial" typically implies observing associations between suspected risk factors and outcomes—this is more an observational design rather than a quasi-experimental approach. Hence it is not part of non-randomized trials.

8. (c) 2.67

Relative Risk (RR) is calculated by comparing incidence in the exposed group (tobacco users) to incidence in the non-exposed group. Among tobacco users, incidence = 40/120 ≈ 0.333. Among non-users, incidence = 10/80 = 0.125. The RR = 0.333 ÷ 0.125 = 2.664, which rounds to approximately 2.67. This means tobacco users are about 2.67 times more likely to develop tuberculosis compared to non-users, underscoring tobacco use as a significant risk factor for TB.

9. (b) 62.5%

Attributable Risk Percent (AR%) among the exposed measures the excess risk due to exposure. First, find the incidence among exposed (40/120 = 0.333) and among non-exposed (10/80 = 0.125). The risk difference is 0.333 – 0.125 = 0.208. The AR% = (Risk difference ÷ Incidence in exposed) × 100 = (0.208 ÷ 0.333) × 100 ≈ 62.5%. This figure represents the proportion of TB cases among tobacco users that can be attributed specifically to tobacco use.

10. (a) 90%

Sensitivity is the ability of a test to correctly identify those with the disease (true positives) out of all those who actually have it. Here, 36 people with brain tumors tested positive, while 4 tested negative. Hence, sensitivity = 36 ÷ (36 + 4) = 36 ÷ 40 = 0.9, or 90%. This implies the EEG catches 90% of true tumor cases in this sample. High sensitivity is crucial for serious conditions because it reduces the chance of missing true cases.

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11. (c) Chest indrawing

According to WHO/IMNCI guidelines, chest indrawing (especially lower chest wall indrawing) is a key sign of severe pneumonia in children. While fast breathing may indicate pneumonia, the presence of marked inward movement of the chest with breathing suggests more serious involvement of the lungs, indicating that the child is working harder to breathe. This finding often necessitates urgent medical attention and possibly hospital-based treatment. Other signs (nasal flaring, grunting) also indicate distress but chest indrawing is the critical sign used for severity classification.

12. (c) Healthy sibling

VZIG is given prophylactically to high-risk, susceptible individuals exposed to Varicella-Zoster virus. High-risk groups include immunocompromised persons (e.g., those with HIV/AIDS who have low CD4 counts), pregnant women (to avoid congenital varicella), and neonates born to mothers who develop varicella around delivery. A healthy sibling with a normal immune system is not considered high-risk. While monitoring might still be advisable, routine VZIG for a healthy sibling is not indicated because they can usually mount an immune response or receive vaccination.

13. (d) Pseudo carriers

A pseudo carrier is someone who harbors a microorganism in a form that is not capable of causing disease (avirulent) either to themselves or others. They test positive if sampled, but the strain carried is nonpathogenic. Incubatory carriers harbor disease organisms and can transmit them during the incubation period. Convalescent carriers continue to harbor and potentially spread pathogens while they are recovering. Healthy carriers are asymptomatic carriers of the pathogenic (virulent) strains. Hence, avirulent carriage is specifically labeled "pseudo carrier."

14. (d) 33.3 per 100 men / year

Incidence among the exposed group (tobacco users) is calculated by dividing the number of new cases by the total at risk. Here, 40 new TB cases occurred among 120 tobacco users. Thus, incidence = (40 ÷ 120) × 100 = 33.33 per 100 persons per year. This indicates that roughly one-third of tobacco users developed tuberculosis in the one-year follow-up. Tobacco use, through its effects on immunity and lung health, is associated with a higher risk of various respiratory infections, including TB.

15. (b) Preference to control exposure A, because it has a higher population attributable risk

Relative risk indicates the strength of the association (Exposure B RR=10 A RR=5), and attributable risk (AR) quantifies excess risk for exposed individuals. However, population attributable risk (PAR) measures the overall impact on the entire population, factoring both how strongly and how commonly an exposure occurs. Exposure A has a PAR of 70%, higher than B's 50%. Even though B has a higher RR and AR, controlling A could prevent more cases overall in the community, hence A is the priority.

16. (b) Case-control

Cancer outcomes associated with mobile phone radiation often have a long latency, and the incidence in the general population can be relatively low. A case-control study is especially useful here because researchers can start with people who have the outcome (cancer) and those who do not, then look back to assess exposure levels (mobile phone use). This retrospective approach is both cost-effective and feasible for investigating rare or delayed conditions, making it preferable over cross-sectional or purely interventional designs in this context.

17. (b) Age standardized death rate

Different populations can have different age distributions, and age strongly influences mortality rates. The crude death rate does not correct for these differences, making direct comparisons potentially misleading. Age-standardized death rates adjust for differences in age composition, enabling a fairer comparison. Specific death rates (e.g., age-specific rates) focus on particular subgroups but do not summarize the overall risk in one measure. Proportional mortality looks at deaths from a certain cause as a fraction of total deaths, not overall mortality risk.

18. (c) 1, 2 and 3

An apparent rise in incidence can occur for several reasons. First, it may genuinely reflect a need for a new disease control program if the disease is truly becoming more common. Second, improved surveillance and reporting practices can artificially raise the measured incidence, because more cases are detected and recorded. Third, a change in the disease etiology—such as a more virulent strain or altered risk factors—can also cause true increases in incidence. All three factors often warrant consideration by public health professionals.

19. (c) Population 15–64 years of age

The total dependency ratio measures how many individuals are typically "dependent" (children under 15 and the elderly over 64) compared to the "working-age" population, which is generally recognized as 15–64 years. The working-age group forms the denominator, as they presumably provide the economic and supportive resources. Dividing the dependent population by the working-age population and then multiplying by 100 produces the total dependency ratio, an important demographic indicator for economic and social planning.

20. (a) Artemether and Lumefantrine

In India, malaria treatment guidelines for pregnant women recommend different drug regimens depending on the trimester and regional drug resistance patterns. In the North Eastern states, there is widespread resistance to Sulphadoxine-Pyrimethamine (SP). Consequently, Artemether–Lumefantrine is a preferred artemisinin-based combination therapy (ACT) for uncomplicated P. falciparum malaria in the 2nd and 3rd trimesters. This helps achieve optimal cure rates and prevents complications. Other regimens involving SP are

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less effective in areas of known SP resistance, which includes much of the Northeast.

21. (a) Cohort study

Relative risk (RR) compares the incidence of an outcome in an exposed group to that in a non-exposed group. In a cohort study, participants are classified based on exposure status and followed forward in time to observe outcomes, allowing a direct calculation of incidence and thus RR. While randomized controlled trials also allow calculation of incidence and RR, in observational epidemiology, the cohort study is the classic design for measuring RR. Case-control and correlation studies cannot directly compute RR without additional assumptions or data.

22. (b) Yellow

When orthotolidine reagent is added to water containing free residual chlorine, a yellow color develops. The intensity of the yellow color (which may deepen toward orange-brown for higher concentrations) is proportional to the amount of free chlorine present. This test helps in rapid field-level checks of chlorinated water, ensuring safety against waterborne diseases. While more sophisticated methods (e.g., DPD test kits, spectrophotometry) are available, the OT test remains a simple and traditional qualitative/quantitative test in many low-resource or on-site settings.

23. (c) 1, 2 and 3

Navjat Shishu Suraksha Karyakram (NSSK) is a Government of India program focused on improving newborn health outcomes by training health workers in the "golden minute" of newborn care and resuscitation. It includes preventing hypothermia and infection, encouraging immediate breastfeeding, and ensuring proper resuscitation techniques. The objective is to have at least one skilled provider at each delivery point to handle basic newborn care emergencies. Hence, all three statements accurately describe the goals and scope of this national initiative.

24. (c) Testing median urinary Iodine excretion

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The true measure of a population's iodine status is best captured by their median urinary iodine excretion, which reflects recent iodine intake and the overall effectiveness of salt iodization. Although testing the iodine content in salt at production or consumer level is important for quality control, it does not directly confirm iodine sufficiency in the population. Serum iodine levels are less commonly used for large-scale assessments. Median urinary iodine concentration is thus the critical indicator of program impact on iodine deficiency.

25. (b) Construction workers under sea level

Caisson's disease (also called "the bends" or decompression sickness) occurs when individuals working under high atmospheric pressure (e.g., underwater or in pressurized tunnels) ascend or return rapidly to normal atmospheric pressure. Nitrogen dissolved in blood under high pressure can form gas bubbles in tissues and bloodstream upon decompression, leading to joint pain, neurologic symptoms, and even life-threatening complications. Construction workers under sea level (e.g., in underwater tunneling) and divers are at particular risk if proper decompression protocols are not followed.

26. (c) Lead

Lead poisoning classically presents with gastrointestinal disturbances (such as colic and constipation), hematologic abnormalities (microcytic anemia, basophilic stippling of RBCs), and a "lead line" (blue-black line) on the gums. Chronic exposure can impair neurological development in children and contribute to cognitive deficits. Occupational and environmental sources of lead include battery manufacturing, lead-based paints, and contaminated water pipes. Avoiding exposure, regular monitoring in high-risk industries, and chelation therapy (when indicated) are essential for managing and preventing lead poisoning.

27. (b) Congenital hypothyroidism

Newborn biochemical screening typically tests for inborn errors of metabolism and endocrine disorders such as congenital hypothyroidism and certain metabolic conditions (e.g., phenylketonuria). Congenital hypothyroidism

is detected via a blood spot TSH or T4 test. Catching and treating thyroid insufficiency early can prevent growth failure and irreversible intellectual disability. By contrast, congenital dislocation of the hip is diagnosed by clinical/orthopedic examination, chromosomal abnormalities usually require cytogenetic testing, and congenital rubella is identified serologically rather than through routine "biochemical" screening panels.

28. (b) Role play

Mass approaches in health communication are designed to reach large segments of the population simultaneously. Folk methods (e.g., street plays, local folk theater), posters, and health exhibitions can all be delivered or displayed to big audiences at once. Role play, however, generally targets smaller groups and involves interactive participation, making it more of a small-group or interpersonal strategy. While role play is excellent for training or behavior-change demonstrations, it is not typically considered a broad-based mass communication approach.

29. (c) 1, 2 and 3

Non-modifiable risk factors are those that cannot be changed by interventions. Age is a key determinant—blood pressure tends to rise as people get older. Sex also plays a role; for example, males can have higher risks at younger ages, whereas postmenopausal women's risk can rise later. Genetic predisposition (family history) strongly influences the likelihood of developing hypertension. In contrast, modifiable factors include diet, exercise, smoking, and alcohol use. Addressing the modifiable factors while acknowledging the non-modifiable ones is crucial in hypertension prevention.

30. (d) 100 mg elemental Iron and 500 mcg folic acid

Under India's National Iron Plus Initiative, adolescents (10–19 years) are placed in the higher dose category. When supplementation is given daily (particularly to treat or prevent anemia in older children and adolescents), the standard recommended dose is around 100 mg of elemental iron plus 500 micrograms of folic acid. This is to address the increased iron demands during growth spurts and to combat widespread anemia in this age group. Younger children (under 10) generally receive lower doses.

31. (b) Within one hour of birth

The World Health Organization (WHO) and UNICEF recommend initiating breastfeeding within the first hour of life. This immediate skin-to-skin contact and early feeding helps improve neonatal survival rates by ensuring the newborn receives colostrum—rich in immune factors and nutrients—and establishes successful lactation. Early initiation also fosters bonding and reduces infection risk. Although some older guidelines cited "within half an hour," the widely accepted global standard for a normal delivery is to begin breastfeeding "within one hour of birth."

32. (c) Card board box with blue colored marking

India's Biomedical Waste Management Rules (2016) categorize waste by color-coded containers and bags to streamline safe disposal. Metal implants and glassware (e.g., broken ampoules, vials) fall under the "blue" category, typically requiring cardboard boxes or containers labeled with blue markings. The yellow container is reserved for human anatomical waste and soiled items, the red for contaminated plastics such as IV tubes or catheters, and the white puncture-proof container is for sharps (needles, scalpels). Thus, metallic implants go in the blue-coded box.

33. (b) Management by objectives

Management by objectives (MBO) focuses on setting organizational goals through negotiation between management and employees, aligning individual objectives with overall organizational goals. Although it can include quantitative targets, it is not in itself primarily a quantitative method. In contrast, network analysis (e.g., PERT/CPM), system analysis, and planning-programming-budgeting systems (PPBS) rely heavily on quantitative modeling, resource allocation frameworks, and time-cost analyses. MBO is more of a strategic management approach emphasizing commitment and clarity

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of goals rather than numeric or algorithmic models.

34. (c) Late expanding

In the demographic transition model, nations typically progress through stages from high birth and death rates (high stationary) to declining death rates (early expanding), to declining birth rates (late expanding), and eventually to low birth and death rates (low stationary). India currently has lower mortality but still relatively high, though declining, birth rates. This places India in the late expanding stage—birth rates haven't stabilized fully, but population growth, while significant, is gradually slowing. Eventually, with further reductions in fertility, it could move to low stationary.

35. (d) Maternal mortality

Manual Vacuum Aspiration (MVA) is a safer, simpler method for early pregnancy termination (especially in resource-limited settings). By providing a less invasive technique at the primary healthcare level, unsafe abortions decrease—an important contributor to maternal morbidity and mortality. Timely and appropriate management of unwanted or complicated early pregnancy leads to fewer complications like hemorrhage, sepsis, or incomplete abortion. Consequently, MVA availability lowers the risk of fatal outcomes, thereby contributing to a reduction in overall maternal mortality.

36. (d) Kappa coefficient

Kappa coefficient (κ) measures inter-rater reliability for categorical data. It accounts for the possibility of agreement occurring by chance alone, thus providing a more robust measure than a simple percentage agreement. Specificity and sensitivity are measures for diagnostic tests comparing results to a gold standard, not between two independent observers. The correlation coefficient is used for continuous variables, indicating linear association, not direct categorical agreement. Hence, Kappa is the standard measure when two observers classify items as "yes/no," "positive/negative," etc.

37. (d) 8

Under Home-Based Newborn Care (HBNC) guidelines, additional visits are recommended for low birth weight (LBW) or preterm infants to provide closer monitoring of feeding, warmth, and danger signs. While six visits (within the first six weeks) are standard for normal birth weight babies, LBW babies require extra follow-up extending up to 42 days and beyond (often on Day 60 and Day 90 as well). These eight visits by the Auxiliary Nurse Midwife (ANM) or ASHA worker help reduce neonatal mortality and morbidity among vulnerable newborns.

38. (a) Labour room or delivery facility

According to Indian Public Health Standards, a Type B sub-center is upgraded to enable deliveries, meaning it has a functional labor room and essential equipment to conduct normal deliveries. Type A sub-centers do not have delivery facilities. The introduction of a labor room in Type B centers aims to promote institutional or facility-based deliveries closer to rural communities. This helps reduce maternal and neonatal complications by ensuring immediate skilled care. Staffing, location, and drug availability do vary, but the key structural difference is delivery facility.

39. (a) Mass screening

Mass screening involves testing an entire population, regardless of individual risk level. This approach can be costly and inefficient if the disease has a relatively low prevalence in the general population. The positive predictive value also drops when prevalence is low, increasing the burden of false positives. By contrast, high risk group screening (focusing on those with elevated risk), selective screening (targeting specific subgroups), and multiphasic screening (testing for multiple conditions simultaneously) are generally more cost-effective and yield higher true-detection rates.

40. (a) Family size

When assessing the impact of a family planning program, the ultimate goal is to see whether fertility has declined. A key population-level measure for this is family size (often captured by indicators like the total fertility rate or average number of children per family). Although

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tracking service usage or changes in behavior is important, those are often considered process or intermediate outcomes. Family size directly reflects whether the program has reduced overall fertility and hence is a prime impact indicator.

41. (b) 1, 2 and 4

During pregnancy, there is a rise in cardiac output, primarily due to increased stroke volume and elevated heart rate (pulse rate). At the same time, plasma volume expands more than red cell mass, typically lowering colloid oncotic pressure (not raising it). Consequently, 3 (Increase in colloid oncotic pressure) is incorrect. The correct hemodynamic changes are increased cardiac output, increased stroke volume, and increased pulse rate, all of which help meet the greater circulatory demands of the growing fetus and placenta.

42. (a) 1, 2 and 3

Several mechanisms are proposed for the initiation of labor: progressive uterine distension can stimulate contractility; the fetal HPA axis (leading to increased cortisol) plays a crucial role near term; and a rise in prostaglandins promotes uterine contractions and cervical ripening. While shifts in maternal hormones and other factors also contribute, a generalized "increase in serum calcium levels" is not typically listed among the main triggers for spontaneous labor. Hence 4 is not among the classic hypotheses.

43. (a) 1, 2 and 3

Puerperal sepsis risk increases with multiple vaginal examinations (each can introduce bacteria), group A and B beta-hemolytic Streptococcus are well-known causative organisms, and retained products of conception (placental fragments, membranes) provide a nidus for infection. Vaginal packing, however, generally increases infection risk rather than decreasing it. Proper aseptic technique, minimizing unnecessary examinations, and ensuring complete evacuation of the uterus postpartum are key measures to reduce the likelihood of puerperal sepsis.

44. (b) 1 and 2 only

For a prolapsed cord, immediate measures include repositioning the woman (e.g., exaggerated Sims, knee-chest, or Trendelenburg) to reduce pressure on the cord. Gently placing (not forcefully pushing) the exposed cord back into the vagina keeps it warm and moist, preventing vasospasm. However, replacing the cord inside the uterus is contraindicated (risking trauma and infection). "Early amniotomy" in a situation of an unengaged presenting part can increase rather than prevent cord prolapse, so that statement is also not correct.

45. (d) Internal iliac artery

The broad ligament is a double layer of peritoneum extending from the uterus to the lateral pelvic walls, enclosing structures such as the fallopian tubes, uterine vessels, ovarian ligament, and part of the ovary's vascular supply. However, the internal iliac artery itself and its main trunk lie outside (lateral to) the broad ligament in the pelvic region. The uterine artery—a branch of the internal iliac—runs within the broad ligament, but the main internal iliac artery does not.

46. (c) Ovulation occurs after 12 hours of LH peak

The luteinizing hormone (LH) surge typically begins 36 hours before ovulation, but the actual peak of LH occurs closer to 24 hours prior. Ovulation usually takes place about 10–12 hours after the LH peak. Estradiol does peak in the late follicular phase, helping trigger the LH surge, but its timing is generally 24–36 hours pre-ovulation (not strictly 48). The LH surge itself may last up to 48 hours, yet ovulation typically follows roughly half a day after that LH concentration peaks.

47. (d) Metronidazole is the treatment of choice

Candida (yeast) infections typically present with a thick, curd-like vaginal discharge and are famously associated with severe itching (often worse than the volume of discharge would suggest). Microscopic examination often shows budding yeasts or pseudohyphae. Treatment of choice is an antifungal agent (e.g., fluconazole orally or azole creams intravaginally).

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Metronidazole is indicated for bacterial vaginosis or trichomoniasis, not candidiasis. Thus, using metronidazole for candida is incorrect and represents a key differentiating point.

48. (c) Multiparity

Endometrial carcinoma risk increases with prolonged estrogenic exposure: examples include early menarche, late menopause, obesity (aromatization of androgens to estrogens in adipose tissue), nulliparity, and chronic anovulation. Hypertension and diabetes are also often associated in metabolic syndrome, which correlates with higher endometrial cancer risk. By contrast, multiparity exerts a protective effect (fewer total unopposed-estrogen cycles). Thus, being parous (especially multiple times) generally lowers the likelihood of endometrial carcinoma rather than raises it.

49. (d) Usually symptomatic

Functional ovarian cysts (e.g., follicular cysts, corpus luteum cysts) often arise as part of the normal menstrual cycle. They are typically unilocular, usually measure less than about 7–8 cm, and often regress spontaneously within a few cycles. Most are asymptomatic, discovered incidentally on ultrasound. They only cause notable symptoms if they grow large, rupture, or undergo torsion. Hence, being "usually symptomatic" is not a typical feature; the hallmark is that many women never realize they have them.

50. (c) 1, 2, 3 and 4

Gestational trophoblastic disease (GTD) encompasses a range of tumors arising from trophoblastic tissue. These include complete and partial hydatidiform moles, which are more "benign" forms, but also invasive mole and choriocarcinoma, which are malignant. All of these are part of the GTD continuum, requiring close surveillance of hCG levels and appropriate management (often chemotherapy for malignant forms). Rarer entities like placental-site trophoblastic tumors also belong to the broader GTD spectrum but are less commonly encountered.

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51. (d) Cervicopexy

Fothergill's operation (also called the Manchester operation) is a conservative procedure for uterine prolapse that involves: (1) partial amputation of the cervix, (2) plication of the cardinal ligaments (Mackenrodt's ligaments) to tighten support, and often (3) an anterior colporrhaphy to correct cystocele. Cervicopexy—suturing the cervix to a higher structure like the uterosacral ligaments or the sacrum—is not typically part of Fothergill's. Cervicopexy procedures are different surgical approaches (e.g., sacrocervicopexy) used for more advanced prolapse.

52. (d) Cardiac output remains unchanged after delivery

Immediately postpartum, there is a transient increase in cardiac output as blood from the contracted uterus shifts into circulation. Over the subsequent days to weeks, blood volume and cardiac parameters gradually return toward nonpregnant levels. Mildly elevated pulse or a low-grade temperature (but under 100.4°F) can be common in the first 24 hours. By about the second week postpartum, most hemodynamic parameters are near normal. The idea that cardiac output remains "unchanged" is thus incorrect; it definitely fluctuates postpartum.

53. (d) 1, 2 and 3

In beta thalassemia trait (minor), patients characteristically have a microcytic hypochromic picture—hence low MCV and MCH—even though iron studies are typically normal or show elevated TIBC (to differentiate from iron deficiency). A diagnostic hallmark is increased HbA2 (>3.5%) on hemoglobin electrophoresis. During pregnancy, an obstetrician must distinguish this from iron-deficiency anemia to avoid inappropriate over-supplementation with iron and to provide genetic counseling if necessary, since the fetus could inherit more severe forms of thalassemia if both parents are carriers.

54. (c) Injection Dexamethasone is to be given for fetal lung maturity

A BP of 170/110 mm Hg with proteinuria after 20 weeks' gestation confirms severe preeclampsia,

combination for uterine blood supply is uterine artery plus ovarian artery.

68. (b) It reveals information about fetal lung maturity and wellbeing

Amniotic fluid reflects several fetal parameters. Assessing components like surfactant (via lecithin/sphingomyelin ratio) helps predict lung maturity. Meanwhile, the volume is typically highest around 34–36 weeks (not 28). In duodenal atresia, fluid accumulates (polyhydramnios) because the fetus cannot swallow or absorb amniotic fluid. In gestational diabetes, polyhydramnios (excess fluid) is more common, not oligohydramnios. Therefore, the statement that amniotic fluid helps evaluate fetal lung maturity (and fetal well-being) is the correct option here.

69. (b) 1, 2, 3 and 4

During pregnancy, plasma volume indeed rises about 30–50%. It is also a hypercoagulable state (increasing risk of venous thromboembolism). Because plasma volume expands disproportionately to red cell mass, the hematocrit usually falls (the so-called physiologic anemia). While concentrations of some proteins (e.g., albumin) may drop, the total amount of circulating plasma proteins actually increases overall (albeit less dramatically than the plasma volume). Thus, each of the four statements, when taken as a net effect, can be considered correct.

70. (b) Lambdoid suture separates the two parietal bones

Normal fetal skull sutures include the sagittal suture between the two parietal bones, the coronal suture between frontal and parietal bones, and the lambdoid suture between parietal and occipital bones. The frontal (metopic) suture divides the right and left frontal bones. The bregma, or anterior fontanelle, is the diamond-shaped membrane-filled gap where the frontal and parietal bones meet (coronal + sagittal sutures). Hence the statement that the lambdoid suture separates the two parietal bones is incorrect.

71. (d) 1, 2 and 4

In a high-grade (stage 3) uterine prolapse, definitive management typically involves vaginal hysterectomy with pelvic floor repairs (anterior and posterior colporrhaphy). Even if a rectocele is not obvious, surgeons often reinforce the posterior compartment to prevent future bulging. A Manchester (Fothergill's) procedure suits milder prolapse when uterine preservation is desired. Since she already has stage 3 descent and a moderate cystocele, a comprehensive repair usually includes (1) anterior repair for cystocele, (2) prophylactic or partial posterior repair, and (4) hysterectomy.

72. (b) Diagnostic laparoscopy

For postmenopausal bleeding, the priority is to rule out endometrial or cervical pathology. Endometrial sampling/biopsy is essential to assess for endometrial hyperplasia or carcinoma. Pap smear evaluates cervical cytology. Hysteroscopy permits direct visualization of the endometrial cavity and allows targeted biopsy if indicated.

Diagnostic laparoscopy, however, is not routinely required in the initial workup of postmenopausal bleeding; it is invasive, offers minimal additional diagnostic benefit for uterine causes, and is reserved for specific indications (e.g., evaluating pelvic masses outside the uterus).

73. (d) 1, 3, and 4

The question asks which statements are NOT correct. Let's analyze each statement:

1. Correct: β-hCG is indeed a glycoprotein hormone.
2. Correct: Serum β-hCG levels increase in pregnancy, germ cell tumors, and gestational trophoblastic diseases.
3. Incorrect: β-hCG levels are not the same in single and multiple pregnancies; they are typically higher in multiple gestations.
4. Correct: β-hCG shares its α-subunit with other glycoprotein hormones such as FSH, LH, and TSH.

Since the only incorrect statement is 3, and none of the answer choices offer "3 only," we must select the choice that includes all the correct statements, which are 1, 2, and 4.

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61. (c) 1 and 2

Among cardiac conditions posing very high maternal mortality risk are severe pulmonary hypertension (including Eisenmenger's) and aortic coarctation (especially if there is associated valvular disease). These can precipitate decompensation under the hemodynamic strain of pregnancy. In contrast, an isolated atrial septal defect is often well-tolerated, and while mitral stenosis can be serious, it is generally less uniformly lethal than advanced pulmonary hypertension or severe coarctation. Hence, 1 (pulmonary HTN) and 2 (coarctation with valvular involvement) are the top-risk entities.

62. (c) Anencephaly

Anencephaly is a major neural tube defect that is incompatible with life. In many jurisdictions (including Indian law), termination is legally permitted at later gestations for lethal anomalies like anencephaly. Duodenal atresia and hydrocephalus, while serious, are not inevitably fatal and may be amenable to surgical or medical intervention. Bilateral talipes (clubfoot) is correctable as well. Because anencephaly leads to almost certain neonatal death or stillbirth, termination is commonly allowed irrespective of the usual gestational limits.

63. (c) Rubella infection

Recurrent spontaneous abortion (three or more consecutive pregnancy losses) often relates to parental chromosomal translocations, antiphospholipid syndrome (autoimmune), or hereditary thrombophilias (e.g., Factor V Leiden, Protein S deficiency). These conditions predispose to early implantation failure or placental insufficiency. While rubella infection can cause congenital abnormalities or sporadic miscarriage, it is not typically listed as a primary cause of recurrent miscarriage. Vaccination and prompt diagnosis of rubella reduce fetal risks, but it is not a routine explanation for repeated losses.

64. (a) 1 only

Anencephaly is a severe neural tube defect in which a major portion of the brain, skull, and scalp is absent. It is almost invariably fatal—affected newborns rarely survive more than a few hours or days. Transposition of the great vessels (TGA) can be lethal without treatment, but surgical correction can allow many children to survive into adulthood. Down syndrome is compatible with life, though it carries increased morbidity. Hence, only anencephaly is consistently lethal among the listed abnormalities.

65. (b) 1, 2, 3 and 4

A safe planned vaginal breech delivery depends on multiple prerequisites: The fetus should be healthy (not compromised), the maternal pelvis should be clinically adequate, and the breech should preferably be a frank/extended presentation (legs extended at the knees). Additionally, fetal weight under roughly 3.5 kg reduces the risk of head entrapment and birth trauma. If these selection criteria are met, a carefully monitored vaginal breech birth can be undertaken; otherwise, a cesarean section is generally recommended.

66. (c) 1 only

A persistent brow presentation—where the fetal head is partially extended—often does not permit safe vaginal delivery because the presenting diameter is too large and does not effectively flex or extend to facilitate birth. Face presentations (like mento anterior) can be delivered vaginally if the chin (mentum) rotates anteriorly. Occipito posterior can also be delivered vaginally, although it may be prolonged or painful. Breech presentation can be delivered vaginally under proper criteria. Hence, brow presentation (1) is the one typically "not possible."

67. (a) 1 and 2

The uterus is supplied mainly by two arteries: the uterine artery (a branch of the internal iliac artery) and an anastomosis from the ovarian artery (arising directly from the aorta). The internal pudendal artery primarily supplies the perineum and external genital structures, while the superior vesical artery goes to the upper part of the urinary bladder. Hence, the correct

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often recommended in very early pregnancies (around 6–7 weeks) but can be used up to about 10–12 weeks if the provider is skilled—however, the question typically teaches "6 weeks" as an upper limit in some older references. By contrast, "medical methods" (mifepristone + misoprostol) are classically licensed up to 7–9 weeks in older guidelines (now extended to about 10 weeks in many places), so statement 2 may be considered debatable or less universally accepted in older exam contexts.

81. (b) A nonsuppurative invasive infection of tissues

Cellulitis is a diffuse, spreading inflammation (often caused by Streptococcus pyogenes or Staphylococcus aureus) involving the skin and deeper subcutaneous tissues. Although there may be some exudation, it characteristically does not form a well-circumscribed collection of pus (that would be an abscess). Hence it is typically described as a nonsuppurative process. Gram-negative organisms or anaerobes are less common causes, and the hallmark is painful, warm, erythematous swelling without a localized fluid pocket.

82. (b) Good blood supply

Malnutrition, metabolic diseases (e.g., diabetes), and immunosuppression all compromise the body's ability to fight infection and to heal properly, thereby raising the likelihood of postoperative wound infection. In contrast, good blood supply is protective because it delivers immune cells, oxygen, and nutrients that facilitate wound healing and combat bacterial invasion. Hence "good blood supply" is the factor among these least likely to increase infection risk—so it is the correct "EXCEPT" choice.

83. (c) Sepsis syndrome

She fulfills SIRS criteria (tachycardia >90, tachypnea >20, leukocytosis >12000). Because there is a likely infectious source (bowel injury, recent surgeries), this is not just SIRS—rather sepsis (infection + SIRS). Her elevated urea/creatinine suggests early organ involvement (renal). True multisystem organ failure would require additional organ failures (e.g., lungs, liver, CNS). A wound infection alone typically does not cause these systemic parameters so acutely. Thus "sepsis syndrome" is the apt diagnosis.

84. (a) Prophylactic panproctocolectomy

Numerous colorectal polyps in a young patient plus a family history of other malignancies (thyroid cancer in a sibling) strongly suggests Familial Adenomatous Polyposis or a related variant. Because these polyps carry a near-100% lifetime risk of malignant transformation, merely removing visible polyps is inadequate. Definitive management is a prophylactic colectomy (often a total proctocolectomy with ileal pouch–anal anastomosis if rectum is heavily involved), preventing the progression to invasive colon cancer.

85. (c) Carcinoma Endometrium

Tamoxifen, although an estrogen antagonist in breast tissue, can act partly estrogenic on the endometrium, predisposing some women to endometrial hyperplasia and eventual carcinoma. Postmenopausal bleeding while on tamoxifen is a red flag for endometrial cancer or precancerous changes. Vulvar or vaginal cancer is less commonly linked to tamoxifen; likewise, fibroids typically regress after menopause and rarely present first as frank postmenopausal bleeding.

86. (b) Middle rectal artery arises from external iliac artery and passes through the lateral ligaments into rectum

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The superior rectal artery is indeed the terminal branch of the inferior mesenteric artery. The middle rectal artery actually branches from the anterior division of the internal iliac artery (not the external iliac). The inferior rectal artery arises from the internal pudendal artery and travels through the pudendal (Alcock's) canal to supply the distal rectum/anal canal. Thus, statement (b) incorrectly attributes the middle rectal artery to the external iliac system.

87. (a) Right Gastroepiploic artery

When the stomach is used to replace or bypass the esophagus (gastric pull-up), the

The intended answer is therefore (d), as it lists the NOT correct statements, which should only be 3. However, since none of the options directly align with just 3, and considering the typical structure of such questions, the answer (d) 1, 3, and 4 might be intended as a misleading option. The correct interpretation is that 3 is the only incorrect statement, and the rest are correct.

74. (b) Norplant

Emergency contraception methods include Levonorgestrel (the dedicated "EC pill"), the Yuzpe regimen (high-dose combined oral contraceptives), and insertion of a copper IUD within five days after unprotected intercourse. Norplant (or similar subdermal implants) provides long-term contraception but is not used for emergency postcoital contraception. Once inserted, it continuously releases hormones for extended prevention of pregnancy but does not offer the immediate interceptive effect required within the short window after intercourse.

75. (b) It increases the incidence of testicular cancer

A no-scalpel vasectomy was indeed pioneered in China as a refined, minimally invasive method. Vasectomy is a simpler and faster procedure compared to female sterilization (tubectomy) and is typically done under local anesthesia. Because viable sperm may remain in the male reproductive tract for weeks, couples are advised to use additional contraception until semen analysis confirms azoospermia (usually 3 months or 20 ejaculations). There is no proven link between vasectomy and increased testicular cancer risk.

76. (d) If mother is severely anemic, the fetus is also severely anemic

In the tropics, iron deficiency is the most frequent cause of maternal anemia, often aggravated by poor diet, parasitic infections, and frequent pregnancies. Mild anemia outnumbers severe cases. Importantly, the fetus typically draws iron preferentially from maternal stores, so the mother's hemoglobin might drop while the fetus often remains relatively protected until maternal deficiency is extremely advanced. Thus, it is not automatically true that a severely anemic mother always produces a severely anemic fetus.

77. (d) It is performed under general anaesthesia

Male sterilization (vasectomy) is typically done under local anesthesia—hospitalization or general anesthesia is rarely required. It is generally safer, simpler, and cheaper than female sterilization. Many men do develop antisperm antibodies post-vasectomy (often clinically irrelevant). The standard occlusion techniques yield a low failure rate, especially once follow-up semen analysis confirms no sperm. Because the procedure is quick, less invasive, and cost-effective, it is promoted as a highly acceptable permanent contraceptive option.

78. (c) Intra-amniotic KCl instillation

Common second trimester abortion methods include medical induction (with mifepristone plus prostaglandin E_1 or E_2 analogs) and, less frequently, hysterotomy if other approaches fail or are contraindicated. Some centers also use hypertonic saline or urea instillation. While KCl may be used intracardiac (not intra-amniotic) in certain late-termination or selective reduction protocols, simply instilling KCl into the amniotic cavity is not a standard recognized technique for second-trimester abortion. Thus, option (c) is not a routine or recommended method.

79. (a) Laparotomy with exploration of bowel

Once a uterine perforation is recognized during a suction-evacuation procedure, one must rule out injury to bowel or major vessels. Merely continuing with curettage or "waiting" risks worsening bleeding or peritoneal contamination. The safest course is to proceed to surgical exploration (often laparotomy, or laparoscopy if facilities permit) to inspect for damage to surrounding structures (particularly bowel). Timely repair of any injury is essential to prevent serious complications such as hemorrhage, peritonitis, or sepsis.

80. (d) 1 and 3

Under most guidelines, suction and evacuation is indeed a standard method up to 12 weeks of gestation. Manual Vacuum Aspiration (MVA) is

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SIRS entails widespread inflammation triggered by infection, trauma, or other systemic insults. Central elements include massive cytokine release (e.g., TNF-alpha, interleukins), increased nitric oxide causing vasodilation and hypotension, and free-radical mediated tissue injury. Microvascular occlusion usually arises in disseminated intravascular coagulation (DIC) or advanced septic shock, but it is not a direct hallmark of the generalized SIRS definition. SIRS can progress to sepsis, septic shock, or multi-organ dysfunction, but microvascular thrombosis is not required for SIRS diagnosis.

110. (a) Restrictive procedure

A sleeve gastrectomy removes much of the stomach's greater curvature, leaving a narrow gastric "sleeve." This procedure restricts the volume of food intake but does not create significant malabsorption (the small bowel remains intact). It also reduces ghrelin production (appetite hormone). The operation is not typically reversible—unlike a gastric band. While some changes in gut hormones may occur, it is mainly a restrictive method compared to, for instance, a Roux-en-Y gastric bypass with both restrictive and malabsorptive components.

111. (d) Serum Insulin

Before bariatric surgery, nutritional deficiencies are evaluated to optimize the patient and prevent postoperative complications. Typical blood tests include micronutrients such as calcium, magnesium, vitamin B12, folate, iron, vitamin D, and albumin. While insulin may be measured in certain metabolic workups (e.g., insulin resistance, Type 2 diabetes), it is not a routine part of standard "nutritional deficiency" screening panels. The main focus is ensuring correction of vitamin or mineral deficits that commonly affect surgical outcomes.

112. (b) Deep Vein Thrombosis

Although venous thromboembolism (including DVT) is a known complication in the early or perioperative period of bariatric surgery—especially in obese patients—it is not typically listed as a major long-term risk. In contrast, patients remain prone over time to protein-calorie malnutrition, vitamin/micronutrient deficiencies (especially after malabsorptive procedures), and the possibility of weight regain if dietary habits lapse. DVT prophylaxis is most crucial immediately post-op, but it does not figure prominently as a persistent long-term risk.

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113. (b) Avoids injury to underlying vessels and nerves

Hilton's method (also called "Hilton's technique") involves making a small incision into an abscess, then using a blunt instrument (e.g., sinus forceps) to carefully open deeper planes along the same tract. This approach reduces risk of accidentally cutting vessels or nerves by following the path of least resistance. While it does allow thorough drainage, the specific recognized advantage is preventing injury to neurovascular structures in deeper tissues. Complete scar-free healing is not guaranteed, and irrigation can be done but is not the distinctive hallmark.

114. (c) Mild head injury in a 50 year old man

Head injury guidelines (e.g., NICE guidelines) advise urgent CT for patients with any of: GCS <13 at any time, suspected open or depressed skull fracture, post-traumatic amnesia >30 minutes, seizures, focal neurological deficit, or other risk factors like age >65. However, a mild head injury (GCS 15, no risk factors) in a 50-year-old with no alarming features might not mandate an immediate CT. Although being older is a concern, 50 years alone is not automatically an indication. Hence (c) is the "EXCEPT."

115. (a) Thrombophlebitis of superficial veins of the breast and anterior chest wall

Mondor's disease is a superficial thrombophlebitis involving subcutaneous veins of the breast, anterior chest wall, or upper abdomen (often the lateral thoracic or thoracoepigastric veins). It typically presents as a palpable, tender cord-like structure. It is not related to tuberculosis or actinomycosis of the breast, nor is it described as an intramammary abscess. Supportive treatment with anti-inflammatories usually suffices, though further evaluation may be required to exclude underlying malignancy in some cases.

right gastroepiploic artery (branch of the gastroduodenal artery) usually becomes the principal vascular pedicle. This artery supplies the greater curvature region, which remains perfused as the stomach is mobilized upward into the thorax/neck. While the left gastric artery is often divided to achieve sufficient length, and the short gastrics are usually divided as well, preserving the right gastroepiploic ensures viability of the pulled-up gastric conduit.

88. (b) Superficial Parotidectomy

For a presumed benign parotid lesion (e.g., pleomorphic adenoma), the recommended surgical treatment is a superficial parotidectomy (if the tumor is in the superficial lobe) with careful identification and preservation of the facial nerve. Simple enucleation is associated with high recurrence rates. Fine-needle aspiration may help confirm diagnosis beforehand, but aspiration biopsy alone is not a definitive treatment. Radiotherapy is generally reserved for unresectable malignant disease or adjunctive therapy, not for typical benign parotid tumors.

89. (b) Follicular carcinoma thyroid

With follicular neoplasms of the thyroid, cytology alone cannot distinguish benign follicular adenoma from malignant follicular carcinoma. Definitive diagnosis requires histologic examination of the entire nodule (to assess for capsular and/or vascular invasion). In contrast, FNAC is quite good at diagnosing papillary and medullary carcinoma (the latter by calcitonin staining and characteristic cells), and it can also confirm inflammatory changes (thyroiditis).

90. (d) are at risk for significant pulmonary embolism

Although calf DVT has a somewhat lower risk of large pulmonary emboli compared to proximal (popliteal/femoral) clots, embolization is still possible, and without appropriate treatment (therapeutic-dose anticoagulation), the clot may propagate. Simple prophylactic doses of heparin or just compression stockings are inadequate treatments for an established DVT. Hence the definitive concern is that even a calf-vein thrombosis can lead to a significant PE if not recognized and fully anticoagulated.

91. (b) Carcinoma breast

Trastuzumab ("Herceptin") is a monoclonal antibody targeting the HER2/neu receptor, which is overexpressed in about 20–25% of breast cancers. It significantly improves outcomes in HER2-positive breast cancer. Although various targeted therapies exist for other cancers (e.g., ovarian, colorectal), Trastuzumab's primary and approved indication remains HER2-positive breast carcinoma (sometimes used off-label in other rare HER2-driven tumors).

92. (a) Computed Tomogram

Contrast-enhanced CT scan of the abdomen is the most practical and sensitive test for detecting pancreatic injury (and associated organ damage) after blunt trauma. DPL (Diagnostic Peritoneal Lavage) is more of an older screening tool that does not localize the injury precisely; ultrasound can miss subtle or retroperitoneal pancreatic trauma. MRI can be used selectively, but for acute trauma settings, CT is faster, more available, and remains the gold-standard for evaluating suspected pancreatic injuries and their extent.

93. (b) Radiologically guided interventions

Uncomplicated pseudocysts <6 cm and <6 weeks old can often be observed for possible spontaneous resolution. However, once a pseudocyst becomes complicated—by infection, hemorrhage, rupture, persistent pain, or compression—interventional drainage is generally required. Modern practice often favors endoscopic or percutaneous (radiologically guided) drainage, which is less invasive and has a high success rate. Open surgical drainage is now reserved for cases failing minimally invasive approaches or with complex anatomy.

94. (d) They show very good results as collagen deposition is maximum

Absorbable meshes (often polyglycolic or polylactic acid-based) are sometimes used as a temporary measure (e.g., bridging a contaminated abdominal wall defect). They can

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help buttress repair when permanent mesh is contraindicated. However, they lose strength as they are reabsorbed, leaving the repair reliant on the patient's own collagen. This can result in higher recurrence than with permanent mesh once the polymer is gone. Hence, the claim that they yield "very good results" with "maximum collagen deposition" is not reliably true.

95. (d) The canal ring narrowing operation (Lytle's)

Classically, femoral hernias are repaired via one of three recognized approaches:

1. Lockwood's "low" approach (below the inguinal ligament)
2. Lotheissen's "inguinal" approach (through the inguinal canal)
3. McEvedy's "high" approach (through an abdominal incision)

The so-called "Lytle's canal ring narrowing" is not routinely described as a standard named procedure for femoral hernia. Therefore, option (d) does not belong among the classic femoral hernia repairs.

96. (d) Inferior epigastric artery

In laparoscopic hernia repairs, the "Triangle of Doom" is the region where major vessels (external iliac vessels) lie. It is bounded by the vas deferens medially and the gonadal vessels (testicular vessels) laterally, with peritoneum forming the anterior boundary. The inferior epigastric artery is more medial and does not form part of that "doom" triangle's boundary. Surgeons must avoid placing tacks or staples here to prevent vascular injury.

97. (a) Maxillary sinus

An antro-choanal polyp is a benign solitary polypoid lesion originating in the mucosa of the maxillary (antral) sinus, extending through the sinus ostium into the nasal cavity, and then posteriorly toward the choana (and often into the nasopharynx). It does not arise from the ethmoids, septum, or nasopharynx itself. Endoscopic sinus surgery or combined approaches aim at removing both the nasal part and its antral origin to prevent recurrence.

98. (b) Adynamic obstruction

True "obstruction" usually implies a mechanical blockage ("dynamic"), in which peristalsis may be hyperactive above the lesion. In paralytic (adynamic) ileus, there is no mechanical barrier; rather, the bowel loses normal peristaltic activity, resulting in gas and fluid accumulation. Common causes include electrolyte imbalances, abdominal surgery, peritonitis, certain drugs, and sepsis. Because peristalsis is absent or greatly diminished, it is often termed "adynamic."

99. (c) Triple vessel disease

Established indications for CABG include significant (usually >50%) left main coronary artery stenosis, triple-vessel disease (especially if left ventricular function is compromised), and certain patients with proximal LAD lesions plus multi-vessel involvement. A mere 25% stenosis is mild and typically managed medically unless other severe lesions exist. Abnormal stress testing alone does not necessarily mandate CABG without confirming significant coronary blockages.

100. (b) Crossing the abdominal aorta

The typical ureteral narrowings occur at:

1. The ureteropelvic junction (UPJ).
2. Where the ureter crosses over the iliac vessels (pelvic brim).
3. The ureterovesical junction (UVJ) at the bladder.

Crossing the abdominal aorta itself is not one of the classical sites of ureteral narrowing. Instead, the critical crossover is where the ureter passes the common iliac (or external iliac) vessels near the pelvic brim. Hence (b) is the "EXCEPT."

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101. (b) It always presents with haematuria

Renal cell carcinoma (RCC), historically called Grawitz's tumor, often presents with hematuria, flank pain, and a palpable mass—but many cases are incidentally detected or have atypical findings like pyrexia of unknown origin. Tumor extension into the renal vein is also well recognized and can lead to pulmonary emboli or metastases. However, the statement that it always presents with hematuria is incorrect because not all patients exhibit this classic sign; thus (b) is the "NOT correct" option.

102. (b) Incision can be closed with absorbable suture

In pediatric surgery, no one incision is "always" mandatory, and skin can indeed be closed using fine subcuticular sutures to minimize scarring. Likewise, a two-layer bowel anastomosis is not compulsory in every setting—many pediatric surgeons use a single-layer technique. However, absorbable suture for abdominal closure (particularly for fascia in smaller children) is a standard acceptable practice, balancing strength and the child's healing capacity. Therefore, (b) is correct and the other statements are either overgeneralizations or false.

103. (c) Neurofibromatosis Type II

Saccular (Berry) aneurysms are classically linked with adult polycystic kidney disease, Marfan's syndrome, and occasionally fibromuscular dysplasia or Ehlers-Danlos. These conditions involve connective tissue or vascular anomalies that predispose to outpouching in cerebral arteries. Neurofibromatosis Type II, on the other hand, is associated with bilateral vestibular schwannomas and other nervous system tumors, but it does not commonly increase the risk for Berry aneurysms. Hence, (c) is the correct "EXCEPT."

104. (a) Nasal polyps are very painful to touch

Benign nasal polyps in conditions like chronic sinusitis, allergic rhinitis, or aspirin-exacerbated respiratory disease are typically pale, edematous, and nontender on palpation. They are often bilateral and can cause nasal obstruction. A polyp that bleeds readily warrants evaluation for possible neoplasm. When nasal polyps occur in a child, meningoencephalocele or other intracranial extensions must be considered. Painful, tender swelling suggests infection or another lesion rather than a true, simple nasal polyp.

105. (b) When radial artery harvest is planned

Allen's test checks ulnar artery patency before proceeding with radial artery cannulation or harvest (e.g., for coronary artery bypass grafting). The patient clenches and unclenches the fist while both radial and ulnar arteries are compressed, then one artery is released to observe re-perfusion. If the hand quickly re-perfuses via the ulnar artery alone, harvesting the radial artery is safer. It is not primarily for finger-prick site selection, AV fistula assessment, or simply checking hand warmth.

106. (c) Primary repair should be attempted

When a fresh facial nerve injury is identified (e.g., in trauma), primary nerve repair is the recommended approach, often under magnification to align fascicles accurately. Delayed or "secondary" repair is more challenging because of scarring and potential muscle atrophy. Simply leaving the ends or only using skin flaps risks permanent facial paralysis. Best functional outcomes occur if the nerve ends are directly approximated (with or without a nerve graft) as soon as feasible after injury.

107. (d) Submentovertex

Fractures involving the body or ramus of the mandible are typically assessed with:

1. Orthopantomogram (OPG) providing a panoramic jaw view
2. Lateral oblique projections focusing on the body/ramus
3. PA mandible or other specialized plain films

A submentovertex (basal) projection is more useful for evaluating zygomatic arches, the cranial base, and skull vault relationships, rather than the body/ramus of the mandible. Hence, (d) is not routinely used for diagnosing these fractures.

108. (b) Gastroesophageal junction

A Mallory-Weiss tear is a linear mucosal laceration typically located at or near the gastroesophageal junction (usually on the lesser curvature side). It is often precipitated by severe retching, vomiting, or anything causing a sudden increase in intragastric pressure. Patients present with hematemesis or melena. In contrast, tears in the distal esophagus or other stomach regions (like the fundus) are less characteristic. Prompt diagnosis and management (endoscopic therapy if needed) usually suffice for hemostasis.

109. (d) Microvascular occlusion

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indicating immediate hospital admission for maternal-fetal monitoring and potential delivery planning. Although steroid administration (e.g., betamethasone/dexamethasone) is standard to accelerate fetal lung maturity if <34 weeks, use at 35 weeks is controversial and often not recommended unless there is clinical rationale to delay delivery briefly. Therefore, "Injection Dexamethasone must be given" is not strictly correct at 35 weeks; other measures (BP control, possible induction) take precedence.

55. (d) Inevitable abortion

In inevitable abortion, the cervix is dilated/open, and bleeding is present, indicating that a miscarriage is likely to proceed, though expulsion of products of conception may not have occurred yet. In incomplete abortion, some but not all products have been passed and the uterus is often smaller than expected. Missed abortion has a closed cervix with a non-viable embryo retained. An ectopic pregnancy typically presents with adnexal tenderness, possible hemodynamic instability, and no intrauterine enlargement consistent with dates.

56. (a) Defined according to biparietal diameter

IUGR (Intrauterine Growth Restriction) is generally defined as a fetal weight (estimated by ultrasound) below the 10th percentile for gestational age. Though biparietal diameter (BPD) is one measurement used in fetal biometry, IUGR is not strictly diagnosed just by BPD; abdominal circumference (AC), femur length (FL), and estimated fetal weight are more decisive. Doppler studies can evaluate placental insufficiency, and these babies indeed risk asphyxia during labor. Also, gestational diabetes more often causes macrosomia rather than restricted growth.

57. (b) Inform the police and make MLC

Under Indian law (POCSO Act), sexual intercourse with any girl under 16–18 years (depending on jurisdiction) is statutory rape. Pregnancy at age 15 automatically indicates possible sexual abuse. Healthcare providers are legally mandated to inform authorities (police) and file a medicolegal case (MLC) even if relatives are unwilling. Failing to do so risks legal consequences for the physician and denies the minor legal protection. Consent for medical termination also involves her guardians, but the duty to report overrides their refusal.

NODIA

58. (c) Focal Migraine

Combined oral contraceptives (COCs) are contraindicated in migraine with aura (often termed "focal migraine") due to an elevated risk of stroke. Smoking is a relative or strong contraindication only in women over 35 who smoke heavily. Epilepsy can be managed cautiously alongside COCs by adjusting medication for enzyme-inducing antiepileptics. Bronchial asthma has no direct absolute bar to COC use. However, migraine with aura consistently appears in WHO and major guidelines as an absolute contraindication to combined hormonal contraceptives.

59. (b) 20–30 mcg

Third-generation combined oral contraceptive pills typically contain lower doses of Ethinyl Estradiol, often in the range of about 20–30 mcg, combined with newer progestins (e.g., desogestrel, gestodene). Earlier formulations contained up to 50 mcg or more of estrogen, but modern practice has favored lower estrogen doses to reduce side effects and cardiovascular risks while maintaining contraceptive effectiveness. Pills with 10–20 mcg are "ultra-low dose," whereas 30–35 mcg is standard low dose, and 35–50 mcg is considered relatively higher by today's standards.

60. (b) 7 days postpartum

Female (tubal) sterilization can be done as an interval procedure (often in the postmenstrual/early follicular phase, to be sure the woman is not pregnant), post-abortion (after appropriate recovery), or concurrently with an MTP (so long as no contraindications exist). Immediate postpartum sterilization is usually recommended within the first 48–72 hours or else after about six weeks. Performing it exactly around day 7 postpartum falls outside the preferred "immediate" window, when the uterus is rapidly involuting, thus making the procedure more difficult and less ideal.

116. (b) Bleeding varices

A Sengstaken-Blakemore tube is a specialized three-lumen device designed to tamponade bleeding esophageal varices in patients with portal hypertension. The gastric and esophageal balloons are inflated to exert pressure on the varices, thereby reducing hemorrhage while definitive treatments (e.g., endoscopic ligation, sclerotherapy, or TIPS) are arranged. It is not used for renal trauma, spleen-related hemorrhage, or duodenal ulcers.

117. (a) Free fluid collection in Pleural cavity

Pancreatic fluid collections or leakage can track into the pleural cavity (particularly on the left side) via diaphragmatic openings, causing a pancreatic pleural effusion. It can also coexist with abdominal pseudocysts or ascites. Interventional drainage (percutaneous or endoscopic) may be needed in symptomatic or infected collections, but it is not automatically mandatory in every effusion. Pancreatic stenting is used in selected cases with ductal disruptions or large pseudocysts communicating with the duct.

118. (a) Lunate bone

Kienböck's disease is the avascular necrosis (AVN) of the lunate bone in the wrist. Patients often present with dorsal wrist pain, decreased motion, and grip weakness. Radiographs or MRI can confirm collapse or loss of vascularity of the lunate. Although AVN can affect other bones (like the femoral head, scaphoid, etc.), Kienböck's specifically refers to necrosis of the lunate.

119. (d) Clamps should be used to stop all bleeding vessels

Following ATLS guidelines means addressing life-threatening issues first, then carefully examining wounds for potential damage to nerves, vessels, or deeper structures. Elevation and pressure help control most superficial bleeding. However, simply applying clamps to "all" bleeding vessels blindly risks damaging important structures (e.g., nerves) or creating further injury. Bleeding vessels should be identified and ligated under vision, not haphazardly clamped without proper assessment.

120. (d) POSSUM → Physiologic and operative severity Score for enUmeration of Mortality and Morbidity

POSSUM and its modifications (e.g., P-POSSUM) are commonly employed postoperatively to predict morbidity and mortality in surgical patients. The ASA classification, MET level, and RCRI are generally used in preoperative risk assessments or determining perioperative cardiac risk. POSSUM takes into account multiple physiologic parameters (blood pressure, pulse, lab values) and operative factors (blood loss, contamination) to generate risk estimates in the postoperative period.

NODIA

END

66. Which of the following genital infections is associated with preterm labour?
(a) Human Papilloma Virus
(b) Trichomonas vaginalis
(c) Monilial vaginitis
(d) Bacterial vaginosis

67. Multiple pregnancy is associated with an increased incidence of the following EXCEPT:
(a) Hyperemesis gravidarum
(b) Congenital malformations
(c) Pregnancy induced hypertension
(d) Post date pregnancy

68. Which of the following conditions of the endometrium is associated with a significantly increased risk of development of cancer ?
(a) Simple hyperplasia
(b) Complex hyperplasia with atypia
(c) Simple atypical hyperplasia
(d) Complex hyperplasia

69. Surgical staging is done for all the genital malignancies EXCEPT:
(a) Ovarian malignancy
(b) Gestational trophoblastic neoplasia
(c) Endometrial carcinoma
(d) Fallopian tube malignancy

70. B-Lynch suture for atonic postpartum haemorrhage
(a) compresses the uterus
(b) ligates the uterine arteries
(c) ligates the utero-ovarian anastomosis
(d) ligates the ovarian vessels

71. Regarding 'Delancy's levels of vaginal support', consider the following pairs:
1. Level I supports distal urethra perineal body
2. Level II supports mid-vagina
3. Level III supports apical defect

Which of the pairs given above is/are correctly matched?
(a) 1 and 3 only
(b) 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

72. Regarding conjoined twins, which of the following statements is/are true?
1. These are always monozygotic
2. These result when division occurs before the embryonic disc is formed
3. Most common variety is thoracopagus

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

73. The appropriate treatment for the baby of a woman who is HBsAg positive but HBeAg negative is:
(a) Both active and passive immunisation soon after birth
(b) Passive immunisation soon after birth but active immunisation after one year of age
(c) Only active immunisation soon after birth
(d) Only passive immunisation soon after birth

74. Consider the following pairs regarding fetal heart during labour:
1. Early decelerations ... Most common during labour and are due to cord compression
2. Late decelerations ... Result due to any process leading to maternal hypotension, placental insufficiency or excessive uterine activity
3. Variable decelerations ... Are due to head compression leading to vagal stimulation

Which of the pairs given above is/are correctly matched?
(a) 1 and 2
(b) 2 and 3
(c) 1 and 3
(d) 2 only

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(d) Pelvi-ureteric junction obstruction

11. Which of the following is NOT correct for 'strawberry gall bladder'?
(a) It is a malignant condition of gall bladder
(b) It has sub mucous aggregation of cholesterol crystals
(c) It may be associated with cholesterol Stones
(d) Simple cholecystectomy is the treatment of choice

12. Treatment of choice for Recurrent Thyrotoxicosis after surgery is
(a) Further surgery
(b) Radio iodine followed by surgery
(c) Radio iodine
(d) Observe/follow –up

13. All the following are features of Polycystic disease of kidneys EXCEPT:
(a) Haematuria
(b) Hypertension
(c) Renal failure
(d) Erythrocytosis

14. Which one of the following is the most important selection criteria for obesity surgery ?
(a) BMI 40
(b) BMI 30
(c) BMI 30 with co-morbid disease
(d) BMI 35 without any co-morbid disease

15. A 45 year old underwent abdominal rectal prolapse surgery. At present, he complains of sexual dysfunction which is probably due to the injury of:
(a) Pelvic autonomic nerves
(b) Inferior mesenteric artery
(c) Rectum
(d) Urinary bladder

16. In endoscopic retrograde cholangiopancreatography endoscope used is:
(a) End viewing
(b) Side viewing
(c) Rigid
(d) Front viewing

NODIA

17. Oliguria is defined as:
(a) Absence of urine production
(b) More than 900 ml of urine excreted in a day
(c) 600 ml to 700 ml of urine excreted in a day
(d) Less than 300 ml of urine excreted in a day

18. A 40 year old man, with a history of a reducible left groin swelling of two years, comes with severe pain over left groin. The swelling is now non-reducible and is very tender to touch. The most probable treatment plan for this patient would be:
(a) Continue conservative management
(b) Hot fomentation of groin area
(c) Oral antibiotics
(d) Prepare for emergency surgery

19. During laparoscopic inguinal hernia repair, in the 'triangle of doom', the following are true EXCEPT:
(a) Vas deferens on medial side
(b) Cord structures on lateral side
(c) Base by iliac vessels
(d) Dangerous area for dissection

20. All are rare type of lateral Hernia of abdominal wall, EXCEPT:
(a) Spigelian
(b) Obturator
(c) Superior lumbar
(d) Inferior lumbar

21. A 35 year old female had laparoscopic ventral hernia repair using polypropylene mesh in January 2015. In June 2015, she is again admitted with features of subacute intestinal obstruction and is managed conservatively. She continues to have recurrent colicky pain after that. Most probably she is suffering from:
(a) Recurrence of hernia
(b) New hernia
(c) Acute appendicitis
(d) Bowel adhesion to mesh

22. Which of the following is NOT correct for breast abscess?
(a) Drainage of abscess by a radial incision
(b) Antibiotic is given if pus is already present
(c) A counter-incision is made in the dependant part
(d) Dressings are changed frequently

23. Important landmark in submandibular gland dissection is:
(a) Posterior border of mylohyoid muscle
(b) Posterior belly of digastrics muscle
(c) Anterior belly of digastrics muscle
(d) Facial artery

24. Which of the following is NOT a feature of Systemic Inflammatory Response Syndrome?
(a) Hyperthermia (more than 38^0C)
(b) Hypothermia (less than 36^0C)
(c) Leucocytosis
(d) Bradycardia

25. A 35 year old man presents to Emergency with acute onset pain abdomen radiating to whole abdomen and abdominal distension for one day. On examination, he has tenderness and guarding all over abdomen with pulse rate of 100/m and BP 116/84 mmHg. Chest X-ray erect position shows gas under bilateral domes of diaphragm. Probably he is suffering from:
(a) Acute pancreatitis
(b) Ruptured liver abscess
(c) Appendicular perforation
(d) Colonic perforation

26. A 70 year old man comes to Emergency with pain lower abdomen and not passing urine for eight hours. He has a past history of urgency, hesitancy and frequency of urine. On examination, he has a lump up to the umbilicus which is slightly tender. What is the next step of management?
(a) Get an urgent USG
(b) Per rectal examination
(c) Per urethral catheterise the patient
(d) Start antibiotics

27. 'Swiss cheese defects' of anterior abdominal wall after exploratory laparotomy is best seen while doing:
(a) Open ventral hernia repair
(b) Open inguinal hernia repair
(c) Laparoscopic ventral hernia repair
(d) Laparoscopic inguinal hernia repair

28. A 35 year old male patient comes to casualty with acute pain abdomen; and on examination found to have cold, clammy extremities, sunken eyes, dry tongue, thready pulse, drawn and anxious face with abdominal guarding and rigidity. This clinical picture indicates:
(a) Local peritonitis
(b) Diffuse early peritonitis
(c) Diffuse late peritonitis
(d) Acute cholecystitis

29. All of the following statements are true for keloids EXCEPT:
(a) It is rarely seen in white skinned persons and is more common over the sternum
(b) True keloid continues to become worse even after one year
(c) True keloid does not spread into surrounding tissue
(d) The maturation and stabilization of the collagen fibrils is inhibited

30. Which of these is a palliative shunt procedure created between the left subclavian artery and pulmonary artery to treat cyanotic congenital heart disease?
(a) Gott's shunt
(b) Lieno renal shunt
(c) Blalock-Taussig shunt
(d) Waterstons shunt

31. A young male is undergoing emergency surgery for a clinical diagnosis of acute appendicitis. Intraoperatively minimal pus was found but the appendix was normal. What is the next step of management?
(a) Appendectomy
(b) Right hemicolectomy
(c) Close the abdomen without doing anything
(d) Search for perforated Meckel's diverticulum

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32. Which of the following is NOT considered as an indicator of adequate fluid resuscitation?
(a) Urine output
(b) Respiratory rate
(c) Pulse
(d) Blood pressure

33. In a 65 year old, double contrast barium enema shows cancer of colon with an apple core appearance. Colonoscopic biopsy shows adenocarcinoma. What will be the next step of management?
(a) Surgery
(b) Chemotherapy
(c) CECT to stage disease
(d) Radiotherapy

34. A 35 year old woman presented with a lump in her upper abdomen for two months which was slightly increasing. She also complained of early satiety. She gave a history of acute severe pain in upper abdomen for which she was admitted in hospital for 10 days, about three months ago. On examination, the mass was firm, smooth surfaced and not moving with respiration. She was most likely suffering from:
(a) Cancer stomach
(b) Cancer colon
(c) Pseudocyst pancreas
(d) Splenic cyst

35. While working in a primary health centre, an elderly patient presents with a history of sudden loss of vision and curtain falling sensation in one eye. This symptom is highly suggestive that the patient has the following condition:
(a) Retinal detachment
(b) Vitreous haemorrhage
(c) Acute onset ptosis
(d) Intracranial haemorrhage

36. Pringle's manoeuvre is done to stop bleeding at:
(a) Left gastric artery
(b) Splenic artery
(c) Renal artery
(d) Hepatoduodenal ligament

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37. What is the most common malignant tumour of eyelid?
(a) Neurofibroma
(b) Meibomian cancer
(c) Basal cell cancer
(d) Pseudotumour

38. Which of the following is NOT a symptom of atherosclerotic occlusive disease at the bifurcation of aorta (Leriche syndrome)?
(a) Claudication of the buttock and thigh
(b) Claudication of the calf
(c) Sexual impotence
(d) Gangrene localised to the feet

39. Which of the following factors is labelled as cytokine in the pathogenesis of Systemic Inflammatory Response Syndrome (SIRS)?
(a) Nitric oxide
(b) Complements
(c) Leukotrienes
(d) Tumor necrosis factor

40. Vocal cord palsy after thyroid surgery is due to injury to:
(a) Superficial laryngeal nerve
(b) Recurrent laryngeal nerve
(c) Ansa cervicalis
(d) Vagus nerve

41. An infertile woman presents with yellow or green vaginal discharge, bartholin cyst and proctitis. What is the most probable diagnosis?
(a) Syphilis
(b) Trichomoniasis
(c) Gonorrhoea
(d) Candidiasis

42. Absolute contraindication to combined oral contraceptive is:
(a) History of GDM
(b) History of thrombo-embolism
(c) History of previous two caesarean section
(d) History of gallbladder disease

43. A 28 year old P1L1 presents with severe pain in her abdomen and is taken for laparotomy. On opening the abdomen pseudomyxoma of the peritoneum is present. What should be the probable reason?
(a) Mucinous cystadenoma of ovary
(b) Serous cystadenoma of ovary
(c) Rupture of dermoid tumor
(d) Endometriosis

44. In a 40 year old woman, pap smear shows atypical glandular cells. The next step of management should be:
(a) Repeat pap smear after three months
(b) Colposcopic directed cervical biopsy
(c) Colposcopy, cervical biopsy, endocervical curettage and endometrial biopsy
(d) Hysteroscopy and directed endometrial biopsy

45. A 50 year old P4L4 has a simple left ovarian cyst of 10 cm. Ca 125 is 30 u/ml. Treatment of choice would be:
(a) TAH + BSO (Total abdominal hysterectomy + Bilateral salpingo-oopherectomy)
(b) Laparoscopic cystectomy
(c) Laparoscopic oophorectomy
(d) Medical management with oral contraceptives

46. A seven year old girl with precocious puberty is found to be having a 10 cm. ovarian cyst on USG. The most likely etiology is
(a) Benign cystic teratoma
(b) Brenner tumour
(c) Choriocarcinoma
(d) Granulosa cell tumour

47. A 17 year old girl presents with an ovarian cyst of 5cm. The cyst is echo free, unilocular and CA 125 of 8U/ml. What is most appropriate management?
(a) Laproscopy for cyst removal
(b) Laparotomy for cyst removal
(c) Conservative with follow up ultrasound
(d) Medical treatment

48. The contraceptive choice for a 38 year old P1L1 woman having chronic hypertension, dysmenorrhea and menorrhagia is:
(a) Copper intrauterine device
(b) Sterilization
(c) Levonorgestrel intrauterine device
(d) Combined oral contraceptive pills

49. Most probable cause of heavy bleeding in a P2L2 during tenth day post partum is:
(a) Retained bits of cotyledons and membranes
(b) Subinvolution of placental site
(c) Resumption of menstruation
(d) Infected episiotomy wound

50. A woman with which of the following health problems should avoid centchromen?
(a) Polycystic ovarian syndrome
(b) Woman with dysfunctional uterine bleeding
(c) Endometrial hyperplasia
(d) Endometriosis

51. Combined contraceptive pills give protection from the following EXCEPT:
(a) Cancer of ovary
(b) Cancer of endometrium
(c) Cancer of cervix
(d) Ectopic pregnancy

52. A woman presents with heavy foul smelling discharge with sharply demarcated ulcers without induration on the perineum and the labia majora. Inguinal lymphadenopathy is also present. What is the most probable diagnosis?
(a) Gonorrhoea
(b) Tuberculosis
(c) Chancroid
(d) Trichomoniasis

53. A 28 year old woman develops amenorrhoea after having dilatation and curettage. The most likely diagnosis is:
(a) Kallman syndrome
(b) Asherman syndrome
(c) Anorexia nervosa
(d) Turner syndrome

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54. Which of the following tests is NOT used for diagnosing syphilis?
(a) Frie's test
(b) Direct fluorescent antibody test
(c) FTA – ABS test
(d) TPHA

55. Fitz-Hugh-Curtis syndrome involving perihepatitis is present in the following:
(a) Moniliasis
(b) Syphilis
(c) Tuberculosis
(d) Gonorrhoea

56. Which of the following cause/causes bacterial vaginosis?
1. Gardnerella
2. Mycoplasma
3. Ureaplasma urealyticum

Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

57. Where are antisperm antibodies usually present?
(a) Uterus
(b) Vagina
(c) Fallopian tube
(d) Cervix

58. Modified Bishop's score includes all EXCEPT:
(a) Cervical length and dilatation
(b) Consistency of cervix
(c) Position of os
(d) Position of occiput

59. The engaging diameter of brow presentation is:
(a) Mento-vertical
(b) Submento-vertical
(c) Suboccipito-bregmatic
(d) Submento-bregmatic

60. Intramuscular injection of iron dextran is given by 'Z' technique to:
(a) Alleviate the pain
(b) Decrease the incidence of infection
(c) Reduce the staining
(d) Increase the iron absorption

61. Which of the following is/are the risk factors for acute pelvic inflammatory disease in women?
1. Intercourse during menstruation
2. Multiple sex partners

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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62. The umbilical cord normally contains:
(a) Two arteries and two veins
(b) One artery and one vein
(c) Two arteries and one vein
(d) One artery and two veins

63. Painless genital ulcer is found in which one of the following genital infections?
(a) Grannloma inguinale
(b) Chancroid
(c) Lymphogranuloma venerum
(d) Herpes simplex

64. Medical management of tubular ectopic pregnancy can be done in the following EXCEPT:
(a) Period of gestation 5 weeks
(b) β HCG level more than 10,000 IU
(c) Absent foetal cardiac activity
(d) Gestational sac diameter 3 cm.

65. Cholestasis may lead to the following complications EXCEPT:
(a) Intrauterine foetal death
(b) Meconium stained liquor
(c) Preterm labour
(d) Neonatal jaundice

(d) 1, 2 and 3

83. The appropriate statistical test to find out obesity as a significant risk factor for breast cancer is:
(a) Student's paired 't' test
(b) Student's unpaired 't' test
(c) Chi-square test
(d) Wilcoxon's signed rank test

84. In a case control study, confounding factors can be minimized by the following EXCEPT:
(a) Matching of variables such as age and sex
(b) Randomization during selection
(c) Stratification during analysis
(d) Increasing sample size for cases and controls

85. Which one of the following is FALSE regarding confounding factor in epidemiological studies?
(a) Associated both with exposure and disease
(b) Distributed equally between study and control groups
(c) Independent risk factor for disease in question
(d) Source of bias is interpretation

86. Denominator in calculation of case fatality rate is:
(a) Total number of deaths due to all causes
(b) Total number of hospital admissions
(c) Total number of cases due to the disease concerned
(d) Total number of deaths due to the disease concerned

87. A well of contaminated water resulting in an epidemic of acute watery diarrhoea is a typical example for
(a) Common source, single exposure epidemic
(b) Common source, continuous exposure epidemic
(c) Slow epidemic
(d) Propagated epidemic

88. An important measure of communicability of a disease is
(a) Incidence rate
(b) Case fatality rate
(c) Prevalence rate
(d) Secondary attack rate

89. Which of the following statements is NOT correct regarding case fatality rate?
(a) Very useful indicator for both acute and chronic diseases
(b) One of the measures related to virulence
(c) It is the ratio of deaths to cases expressed as percentage
(d) Variation can occur for the same disease because of changes in the agent factors

90. Farmer's lung is caused by the inhalation of:
(a) Grain dust with actinomycetes
(b) Sugarcane dust
(c) Silica dust
(d) Cotton fibre dust

91. Suraksha Clinics are conducted under the aegis of which National Health Programme?
(a) Revised National Tuberculosis Control programme
(b) Iodine Deficiency Disorders Programme
(c) National AIDS Control Programme
(d) Reproductive and Child Health Programme

92. Mean $\pm$ 2 S.D. contains
(a) 68.3 % values
(b) 91.2 % values
(c) 95.4 % values
(d) 99.7 % values

93. Infant Mortality Rate is expressed per:
(a) 1000 pregnancies
(b) 1000 live births
(c) 1000 under five children
(d) 100,000 live births

94. Which of the following tests is NOT used for checking quality of pasteurisation of milk?
(a) Phosphatase test

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75. 75.A 26 year old woman P1L1 reports with High Grade Squamous Intraepithelial Lesion (HGSIL) on Pap smear (Papanicolaou smear). Further management for her is:
(a) VIA, VILI
(b) Colposcopy and directed biopsy
(c) LEEP
(d) Conisation

76. With reference to the displacement of uterus, the treatment of choice for genuine stress urinary incontinence is:
(a) Kegel's perineal exercises
(b) Kelly's placation
(c) TVT-O mid urethral tape
(d) Periurethral injection of bulking agents

77. Regarding placental separation in III stage of labour, consider the following statements:
1. Separation of placenta occurs at deciduas spongiosa
2. In Shultz method, separation of placenta starts at centre
3. In Mathew Duncan's method, separation begins at margin

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

78. A 16 year old girl presents with primary amenorrhea with absent vagina, cervix and uterus in the presence of normal secondary sexual characteristics. Ovaries are present on USG. The most probable diagnosis is:
(a) Kleinfelter's syndrome
(b) Androgen Insensitivity syndrome
(c) Mayer Rockitansky Kuster Hauser syndrome
(d) Prader Willi syndrome

79. A 32 year old woman is noted to have 1200 cc of blood loss following a spontaneous vaginal delivery and delivery of placenta. The uterine fundus is palpated and noted to be firm. Which of the following is the most likely treatment for this patient?
(a) B' lynch suture
(b) Surgical repair of cervical tear
(c) Intramuscular prostaglandin
(d) Replacement of inverted uterus

80. Which of the following statements is/are correct regarding physiology of menstruation?
1. LH surge precedes ovulation
2. There are two peaks in serum estradiol levels, first in follicular and second in luteal phase
3. Serum progesterone has only one peak i.e., in luteal phase

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

81. Which of the following is/are the measure(s) of dispersion?
1. Mode
2. Median
3. Standard Deviation

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

82. Which among the following is/are the examples of primordial prevention?
1. Adopting healthy lifestyles from childhood
2. Immunization of infants
3. Screening of cervical cancer

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 2 only
(c) 1 and 3 only

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QUESTION PAPER 2017

1. The external opening of branchial fistula is present in :
   (a) Lower third of the neck
   (b) Middle third of the neck
   (c) Upper third of the neck
   (d) Suprasternal notch

2. A eight year old male child complains of severe pain in right testes. The most probable diagnosis is
   (a) Torsion of right testis
   (b) Strangulated Inguinal hernia
   (c) Acute epididym-orchitis
   (d) Undescended testis

3. Which one of the following statements is NOT correct regarding Gastroschisis?
   (a) It is a ruptured exomphalos
   (b) Gut has herniated through a defect to right of umbilicus
   (c) Normally limited to midgut
   (d) There is no covering membrane

4. Heineke-Mikulicz operation is done for:
   (a) Ureteric stricture
   (b) Urethral stricture
   (c) Pyloric stenosis
   (d) Stricture common bile duct

5. A 32 year old female underwent laparoscopic cholecystectomy which was difficult. On her second post operative day, she develops jaundice. Her LFT parameters show serum bilirubin 6.8 mg/dL; direct bilirubin 5.6 and indirect bilirubin 1.2 mg/dL; and serum alkaline phosphatase 1226 IU/L. She is most likely suffering from obstructive jaundice due to:
   (a) Bile duct injury
   (b) Carcinoma gallbladder
   (c) Hepatocellular carcinoma
   (d) Carcinoma head of pancreas

6. A 60 year old man presents with painless progressive jaundice for two months. He has a history of weight loss. On examination, his gallbladder is palpable which is smooth, non-tender and globular. His serum bilirubin is 18.2 mg/dL. He is most likely suffering from:
   (a) Carcinoma head of pancreas
   (b) Carcinoma stomach
   (c) Choledocholithiasis
   (d) Klatskin tumour

7. A young 23 year old male riding his motorcycle meets with a road accident. He is tachypnoeic with HR 110/m and BP 112/74 mmHg. On examination, he has tenderness over left side of chest with decreased air entry. His trachea is pushed to opposite side. Abdominal examination is unremarkable. Most probably he is suffering from:
   (a) Haemothorax
   (b) Consolidation
   (c) Subcutaneous emphysema
   (d) Tracheal rupture

8. Mondor's disease is
   (a) Lymphangitis of mammary lymphatics
   (b) Multiple breast cysts
   (c) Eczema by nipple and areola
   (d) Thrombophlebitis of superficial veins of breast

9. Which of the following is NOT true regarding 'Renal Carbuncle'?
   (a) It is an abscess in renal parenchyma
   (b) It occurs in diabetic patient
   (c) It is a type of renal tuberculosis
   (d) It occurs in intravenous drug abusers

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10. Anderson-Hynes operation is performed for:
    (a) Achalasia cardia
    (b) Pyloric stenosis
    (c) Pseudo-pancreatic cyst

(b) Standard Plate count
(c) Coliform count
(d) Orthotolidine test

95. Which of the following are components of epidemiological triad?
(a) Sensitivity, specificity and predictive value
(b) Time, place and person distribution
(c) Agent, host and environmental factors
(d) Prevalence, incidence and attack rate

96. By applying the principles of ergonomics which of the following can be improved?
1. Designing of equipment and tools
2. Human efficiency
3. Layout of place of work
4. Reduction in industrial accidents

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 1, 2, 3 and 4
(c) 2, 3 and 4 only
(d) 1, 3 and 4 only

97. The risk of disease is measured by
(a) Prevalence Rate
(b) Incidence Rate
(c) Attrition Rate
(d) Fatality Rate

98. Tetanus spores can only be killed by
(a) Large doses of penicillin
(b) Anti tetanus Serum
(c) Tetanus toxoid
(d) Gamma irradiation

99. Which is/are the correct statements regarding the cut off points for the diagnosis of anaemia?
1. Haemoglobin for adult males is 13 g/dl
2. Haemoglobin for adult non-pregnant female is 12 g/dl
3. Haemoglobin for adult pregnant female is 11 g/dl
4. Haemoglobin for children six months to six years of age is 11 g/dl

Select the correct answer using the code given below:
(a) 1 only
(b) 1, 2, 3 and 4
(c) 2 and 4 only
(d) 1 and 3 only

100. Health functionary at PHC level is:
(a) ASHA
(b) Anganwadi Worker
(c) Health Assistant (Female)
(d) Health Worker (Female)

101. Due to a measles outbreak in a community, a medical officer decided to immunize a child aged seven months with measles vaccine. When should the next measles vaccine be administered?
(a) Not required
(b) After four weeks
(c) When the child completes nine months of age
(d) When the child completes fifteen months of age

102. Which of the following is/are the methods of assessment of nutritional status?
1. Clinical examination
2. Anthropometry
3. Biochemical evaluation
4. Orthotolidine test

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

103. Retrospective cohort studies have the following features EXCEPT:
(a) Outcomes have occurred before the start of the study
(b) Generally more expensive than prospective studies
(c) Results are obtained more quickly
(d) Investigator goes back in time to select study groups

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120. Which of the following vaccines has NOT been introduced in the Universal Immunization Programme in India?

(a) Pentavalent vaccine
(b) MMR vaccine
(c) Injectable polio vaccine
(d) Cervical cancer vaccine

END

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(d) 1, 2, 3 and 4

113. Which of the following statements is/are correct regarding Essential Obstetric Care under the Reproductive, Maternal, Newborn and Child Health care Programme?
1. Early registration of pregnancy
2. Provision of first referral units
3. Provision of safe delivery practices
4. Provision of at least four postnatal checkups

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

114. A pregnant woman visits a medical officer for an antenatal check up. The woman mentions that she had received two doses of Tetanus Toxoid vaccine four years ago. Which of the following steps should the medical officer take with regard to administration of Tetanus Toxoid vaccine as per the Government of India recommended schedule?
(a) Tetanus Immunoglobulin should be administered in the third trimester of pregnancy
(b) Two doses of Tetanus Toxoid vaccine should be administered with an interval of four weeks between the two doses
(c) Only one dose of Tetanus Toxoid vaccine is required
(d) No Tetanus Toxoid vaccine is required

115. With reference to quarantine measures to prevent the spread of a disease, which of the following statements is/are correct?
1. In addition to human beings, quarantine measures are at times also applied to an aircraft or a train or a container etc.
2. The duration of the quarantine period is equivalent to the minimum incubation period for the disease

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

116. Which is the first step in carrying out an Adverse Event Following Immunization (AEFI)?
(a) Formulate a working hypothesis
(b) Observe the immunization service in action
(c) Confirm information in report
(d) Collect data about the suspected vaccine

117. At the end of an immunization session, you found that a reconstituted BCG vaccine vial has around two doses left in it. What should be done in such a situation?
(a) Can reuse the remaining two doses during the next immunization session
(b) Discard the vial in a black coloured bin
(c) Discard the vial in a red coloured bin
(d) Take decision depending upon the Vaccine Vial Monitor (VVM) status

118. With reference to Vaccine Vial Monitors (VVM) being used on vaccine vials, which of the following statements is/are correct?
1. It gives information about heat exposure over a period of time
2. It directly indicates vaccine potency

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

119. Why is matching done in a case-control study?
1. To remove the effect of known confounders
2. To remove the effect of unknown confounders
3. To eliminate selection bias
4. To eliminate interviewer's bias

Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3
(c) 1, 3 and 4
(d) 4 only

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PAPER 2017 ANSWERS

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1. (b) Middle third of the neck

A branchial fistula (typically a second branchial cleft fistula) usually presents along the anterior border of the sternocleidomastoid muscle. The external opening is classically found in the middle third of the neck, slightly above the clavicle but below the angle of the mandible. This location corresponds to the tract's embryological origin from remnants of the branchial apparatus. Clinically, a small opening with possible intermittent discharge may be noted in that region. Surgical excision of the tract is the definitive treatment.

2. (a) Torsion of right testis

Acute torsion of the testis presents with sudden, severe scrotal pain, often in a boy or young adult. Swelling, tenderness, and high-riding position of the affected testis are commonly noted. The spermatic cord twists, compromising blood supply and causing ischemia. Other diagnoses like strangulated inguinal hernia or epididymo-orchitis may present similarly, but torsion is most likely in an eight-year-old with abrupt and severe pain. Early surgical intervention is critical to salvage testicular viability.

3. (a) It is a ruptured exomphalos

Gastroschisis is a congenital defect where abdominal contents herniate through a small opening in the abdominal wall, typically to the right of the umbilicus. Unlike exomphalos (omphalocele), there is no peritoneal or amniotic sac covering the herniated bowel. It primarily involves midgut structures but can extend. Calling gastroschisis a "ruptured exomphalos" is incorrect because exomphalos has a sac and is typically midline at the umbilicus, whereas gastroschisis is a separate defect with no covering membrane.

4. (c) Pyloric stenosis

The Heineke-Mikulicz pyloroplasty is a surgical procedure used to relieve narrowing at the pylorus (pyloric stenosis). It involves a longitudinal incision through the pylorus and subsequent transverse closure to widen the gastric outlet. This technique improves gastric emptying by reducing the constriction. While strictures can occur in other regions (like the bile duct or urethra), Heineke-Mikulicz is specifically known for pylorus-related issues, such as congenital hypertrophic pyloric stenosis in infants or acquired pyloric stenosis in adults.

5. (a) Bile duct injury

Postoperative jaundice following a difficult laparoscopic cholecystectomy often raises suspicion of an iatrogenic bile duct injury. The laboratory findings of predominantly direct hyperbilirubinemia (5.6 mg/dL) and markedly elevated alkaline phosphatase (1226 IU/L) suggest cholestatic or obstructive jaundice. Carcinoma of the gallbladder or the pancreas would not typically present so acutely just days after surgery. Bile duct injury may involve partial or complete transection or stricturing, necessitating prompt imaging and possible surgical or endoscopic repair.

6. (a) Carcinoma head of pancreas

A palpable, non-tender, enlarged gallbladder in the setting of painless jaundice is known as Courvoisier's sign. This is classically associated with malignant obstruction of the common bile duct, most commonly from a pancreatic head tumor. Weight loss and a gradually worsening obstructive picture further support carcinoma of the pancreatic head. Choledocholithiasis usually causes painful episodes of jaundice, while Klatskin tumors (hilar cholangiocarcinomas) typically do not give a palpable gallbladder. Carcinoma of the stomach does not commonly present this way.

7. (a) Haemothorax

A shift of the trachea to the opposite side combined with decreased air entry in the setting of trauma usually indicates a large or "tension"

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advanced (late) peritonitis. "Local peritonitis" usually presents with localized tenderness, whereas "diffuse early peritonitis" may not exhibit such severe systemic features (profound dehydration and shock). Acute cholecystitis typically causes right upper quadrant findings rather than generalized board-like rigidity. This patient's drawn and anxious face, dehydration, and diffuse abdominal signs align most with late generalized peritonitis.

29. (c) True keloid does not spread into surrounding tissue

Keloids are overgrowths of scar tissue that extend beyond the boundaries of the original wound. They often appear on the sternum, shoulders, or earlobes, and are notably more common in darker-skinned individuals. Unlike hypertrophic scars, keloids continue to enlarge over time and do not regress spontaneously. They are characterized by a disorganized, hyperplastic collagen matrix whose maturation is impaired. Thus, the statement that keloids do not spread is false—they do typically invade surrounding normal tissue.

30. (c) Blalock-Taussig shunt

The Blalock-Taussig (BT) shunt is a classic palliative procedure in cyanotic congenital heart defects (notably Tetralogy of Fallot). It involves creating a conduit from the subclavian artery (often the left) to the ipsilateral pulmonary artery, thereby increasing pulmonary blood flow to improve oxygenation. Gott's shunt is different (descending thoracic aorta to the left subclavian), Lieno-renal shunt relates to portal hypertension, and Waterston's shunt is an older aortopulmonary anastomosis. The modern BT shunt remains a cornerstone palliative step in certain cases.

31. (d) Search for perforated Meckel's diverticulum

When the appendix looks normal during an exploratory procedure for suspected appendicitis—especially if there is some purulent fluid—another pathology must be ruled out. A perforated Meckel's diverticulum can mimic acute appendicitis both clinically and even with minimal intra-abdominal pus. The correct approach is to systematically inspect the terminal ileum to locate a potential Meckel's. Removing a normal appendix without exploring for other causes can lead to persistent or worsening infection postoperatively.

32. (b) Respiratory rate

Key parameters for gauging the adequacy of fluid resuscitation include urine output (e.g., 0.5 ml/kg/hour in adults), heart rate (return toward normal), blood pressure (stabilization), mental status, and sometimes lactate clearance or central venous pressure. Respiratory rate may change due to pain, anxiety, acid-base disturbances, or other factors and is not a direct, reliable measure of intravascular volume or fluid responsiveness. Thus, among the listed options, respiratory rate is not typically used as a primary resuscitation endpoint.

33. (c) CECT to stage disease

Once colonoscopic biopsy confirms adenocarcinoma of the colon, the next critical step is accurate staging. A contrast-enhanced CT (CECT) of the abdomen/pelvis (and often chest) helps determine the local extent of the tumor, possible lymph node involvement, and distant metastases. This information guides the definitive treatment approach (surgical resection ± chemotherapy or targeted therapy). Immediate surgery without staging may overlook metastatic disease or influence the choice and timing of neoadjuvant therapy.

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34. (c) Pseudocyst pancreas

A history of severe upper abdominal pain requiring hospital admission—followed weeks later by a gradually enlarging, palpable mass—is classic for a pancreatic pseudocyst. Pseudocysts often arise after an episode of acute pancreatitis or pancreatic trauma. The lump's firm, smooth nature and location in the upper abdomen, plus the symptom of early satiety from external compression, support this diagnosis. Unlike a splenic cyst, the pseudocyst typically does not move with respiration, and a history of acute pancreatitis is strongly suggestive.

35. (a) Retinal detachment

collection in the pleural cavity. While a tension pneumothorax is the classic cause, here "pneumothorax" is not an option. A massive haemothorax on the left side can also push the mediastinum rightward. Consolidation generally draws the trachea toward the same side, and subcutaneous emphysema alone does not typically cause mediastinal shift. Tracheal rupture has more dramatic airway signs.

8. (d) Thrombophlebitis of superficial veins of breast

Mondor's disease is a rare condition characterized by thrombophlebitis of the superficial veins of the breast and anterior chest wall, most often the thoracoepigastric vein. Patients may notice a cord-like structure under the skin, which can be tender initially. Unlike infections or cystic changes, this represents an inflammatory thrombotic process rather than simple infection or fluid-filled lesions. Management is usually conservative, involving analgesics and anti-inflammatory measures, though persistence or complications may require further intervention.

9. (c) It is a type of renal tuberculosis

A "renal carbuncle" (also called a cortical renal abscess) is usually due to staphylococcal infection that forms a localized abscess in the renal cortex. It is frequently seen in diabetic patients and can also appear in individuals who are intravenous drug users, because both conditions predispose to hematogenous spread of bacteria. It is not related to tuberculosis; renal tuberculosis is a separate entity caused by Mycobacterium tuberculosis infection. Hence, labeling it as "a type of renal tuberculosis" is incorrect.

10. (d) Pelvi-ureteric junction obstruction

The Anderson-Hynes pyeloplasty is a surgical technique used to correct pelvi-ureteric junction (PUJ) obstruction, typically caused by a narrowing at the junction of the renal pelvis and ureter. The procedure involves excising the narrowed segment and creating a wide, funnel-shaped anastomosis to restore normal urine flow. It is not used for achalasia, pyloric stenosis, or pseudo-pancreatic cysts. Clinical features often include flank pain, hydronephrosis, and compromised renal function, which can improve significantly following this repair.

11. (a) It is a malignant condition of gall bladder

"Strawberry gallbladder" (cholesterolosis) refers to the appearance of the gallbladder mucosa studded with cholesterol deposits. These submucosal cholesterol crystals give a stippled, strawberry-like appearance. Although it may coexist with gallstones (cholelithiasis), it is usually benign. Simple cholecystectomy may be indicated if symptomatic. Labeling it as a "malignant condition" is incorrect. Malignancy of the gallbladder (gallbladder cancer) is an entirely different pathological entity, often related to chronic inflammation and gallstones, but not specifically to cholesterolosis.

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12. (c) Radio iodine

In a patient with persistent or recurrent hyperthyroidism after surgical resection of the thyroid, radioiodine ablation is generally the preferred treatment. Additional surgery carries greater risks of complications such as recurrent laryngeal nerve injury and hypoparathyroidism. Radioiodine specifically targets thyroid tissue and helps achieve definitive control of thyrotoxicosis. Though some cases may still require surgery in selected scenarios, the usual next step after surgery for recurrence is radioactive iodine therapy rather than immediate re-operation or mere observation.

13. (d) Erythrocytosis

Autosomal Dominant Polycystic Kidney Disease (ADPKD) frequently manifests with flank pain, hematuria, and hypertension, the latter often arising from cyst-induced ischemia of renal tissue leading to renin-mediated pathways. Progressive cyst development reduces functioning nephrons and can lead to renal failure over time. Erythrocytosis (excess RBC production) is not a typical feature; in fact, chronic kidney disease more commonly leads to anemia due to decreased erythropoietin production. Therefore, erythrocytosis is the exception in this list.

14. (a) BMI 40

104. What is the correct sequence of the following levels of prevention?
1. Specific protection
2. Early diagnosis and prompt treatment
3. Disability limitation and rehabilitation
4. Health promotion

Select the correct sequence from the code given below:
(a) 1, 2, 3, 4
(b) 4, 1, 2, 3
(c) 2, 3, 4, 1
(d) 3, 4, 1, 2

105. Which of the following items are among the uses of epidemiology?
(a) To study historically the rise and fall of the diseases
(b) To arrive at community diagnosis
(c) To identify syndromes
(d) All of these

106. Consider the following statements regarding folic acid:
1. It is needed for normal development of blood cells in the marrow
2. It has a role in synthesis of nucleic acids
3. It is resistant to boiling

Which of the above statements is/are correct?
(a) 1 only
(b) 1 and 2
(c) 1 and 3
(d) 2 and 3

107. The maternal and child health care indicator that gives a good indicator of the extent of pregnancy wastage as well as the quantity and quality of health care available to the mother and new born is:
(a) Maternal Mortality Rate
(b) Still Birth Rate
(c) Infant Mortality Rate
(d) Perinatal Mortality Rate

108. To control Mansonoides mosquitoes, the most effective method is:
(a) Oiling of water
(b) Larvicidal insecticides
(c) Avoidance of water collections
(d) Removal of water plants

109. What is the fertility indicator that gives the approximate magnitude of completed family size?
(a) General Fertility Rate
(b) Age Specific Fertility Rate
(c) Total Fertility Rate
(d) Gross Reproduction Rate

110. For a child aged four years, an Anganwadi Worker detects that the weight is lower than expected. What should the Anganwadi Worker do first regarding the malnutrition detected in the child?
(a) Refer the child to the nearby Health Centre
(b) Refer the child a nearby nutritional rehabilitation centre
(c) Give nutritional counselling to the mother
(d) Start fortnightly deworming

111. Which of the following anthropometrical measurements is/are carried out to assess the growth of children under five years of age?
1. Weight measurement
2. Height measurement
3. Mid upper arm circumference

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

112. Which of the following is included in detecting a child with severe acute malnutrition?
1. Weight for age Z-score less than minus three SD
2. Bilateral pitting oedema
3. Weight for height Z-score less than minus three SD
4. Mid upper arm circumference of less than 12 cm.

Select the correct answer using the code given below:
(a) 1 and 3 only
(b) 2 and 3 only
(c) 3 and 4 only

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Following an intraperitoneal mesh repair, scar tissue or adhesions can form between the prosthetic mesh and intestinal loops. These adhesions can cause intermittent partial or subacute intestinal obstruction, leading to colicky abdominal pain. A genuine recurrence of hernia usually presents with a palpable defect or bulge. Acute appendicitis or a new hernia is less likely. Adhesive obstruction is a known complication when the bowel comes into direct contact with the mesh, necessitating further diagnostic imaging and possibly surgical intervention.

22. (b) Antibiotic is given if pus is already present

Standard management of a breast abscess includes incision and drainage (preferably via a radial incision to preserve ductal integrity), along with appropriate antibiotic coverage. Antibiotics are generally started in the presence of mastitis or an abscess, not merely "if pus is already present." Waiting for overt pus is not the sole trigger for antibiotics; treatment begins once clinical infection is evident. A counter-incision may occasionally aid drainage in large or multiloculated abscesses, and frequent dressing changes promote proper wound healing.

23. (a) Posterior border of mylohyoid muscle

During submandibular gland surgery, the posterior border of the mylohyoid muscle serves as a critical landmark. The gland hooks around this border, and identifying it helps avoid injury to nearby structures, such as the lingual and hypoglossal nerves. While the posterior belly of the digastric and the facial artery are also relevant in the submandibular triangle, the mylohyoid's posterior edge is central to safely exposing and mobilizing the deep portion of the submandibular gland and ductal structures.

24. (d) Bradycardia

SIRS criteria focus on changes that signify a systemic inflammatory state, including temperature >38°C or <36°C, heart rate >90/min (tachycardia rather than bradycardia), respiratory rate >20/min or $PaCO_2$ <32 mmHg, and WBC count >12,000/μL or <4,000/μL (or bands >10%). Bradycardia is not typical of an acute inflammatory response; instead, most patients manifest an elevated heart rate. These physiological abnormalities alert clinicians to potential severe infection or inflammation.

25. (c) Appendicular perforation

Free air under both domes of the diaphragm typically indicates a perforation of a hollow viscus. Although perforated peptic ulcer is a classic cause, it is not listed here. Among these options, a perforated appendix can lead to generalized peritonitis and free air if the rupture allows gas to escape into the peritoneal cavity. Colonic perforation could also show free air, but appendiceal perforation is more common and aligns with acute severe abdominal pain evolving to diffuse guarding and rebound tenderness.

26. (c) Per urethral catheterise the patient

Acute urinary retention in an elderly man with a distended bladder ("lump up to the umbilicus") and a history of urinary symptoms strongly suggests benign prostatic hyperplasia or obstruction. The immediate priority is to relieve the retention by passing a urethral catheter. Investigations such as ultrasound or rectal exam are important next steps, but only after decompressing the bladder to prevent further pain or renal compromise. Antibiotics are indicated if there is evidence of infection but are not the immediate first step.

27. (c) Laparoscopic ventral hernia repair

When a patient has multiple small incisional defects ("Swiss cheese" appearance) in the anterior abdominal wall after laparotomy, these are more readily visualized laparoscopically from inside the abdomen. During laparoscopic ventral hernia repair, the surgeon can inspect the internal surface of the abdominal wall, thereby identifying multiple small hernial openings that may be missed in an open approach. Recognizing and repairing all such defects is crucial to reduce recurrence.

28. (c) Diffuse late peritonitis

Marked signs of shock (cold, clammy extremities, sunken eyes) plus diffuse guarding and rigidity over the abdomen strongly suggest

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Current guidelines generally recommend bariatric (obesity) surgery for individuals with a Body Mass Index (BMI) exceeding 40 kg/m², or for patients with a BMI of 35–39.9 kg/m² who also have significant obesity-related comorbidities (e.g., uncontrolled diabetes, severe sleep apnea). A BMI 40 alone is often termed "morbid obesity," and surgical intervention can be considered if non-surgical measures have failed. BMI of 30 or 35 alone, without significant comorbid conditions, typically does not meet the strict criteria for bariatric procedures.

15. (a) Pelvic autonomic nerves

During rectal prolapse surgery (particularly abdominal approaches), the autonomic nerves of the pelvis (the hypogastric and pelvic splanchnic nerves) can be inadvertently damaged. These nerves are crucial for sexual function, especially for erection and ejaculation in men. Injury leads to erectile dysfunction or ejaculatory problems. Injury to the rectum, bladder, or a vascular structure may have other consequences (such as incontinence or bleeding), but sexual dysfunction is most directly linked to disruption of the autonomic innervation.

16. (b) Side viewing

ERCP (Endoscopic Retrograde Cholangiopancreatography) utilizes a flexible, side-viewing endoscope to cannulate the ampulla of Vater in the duodenum. The side-viewing design facilitates visualization and instrumentation of the bile duct and pancreatic duct openings on the medial wall of the second part of the duodenum. Rigid or front-viewing scopes would make accessing the ampulla difficult. This specialized scope allows therapeutic interventions such as sphincterotomy, stone extraction, and stent placement in addition to diagnostic imaging of the biliary and pancreatic ducts.

17. (d) Less than 300 ml of urine excreted in a day

Oliguria refers to markedly reduced urine output, which is generally taken as under 400 or 500 ml over 24 hours. Many texts, however, use 300 ml/day as a threshold in certain definitions. By contrast, anuria is the complete absence of urine production (often <50 ml/day). Normal adult urine output ranges from about 800 to 2000 ml/day. Therefore, a value below 300 ml/day clearly indicates inadequate kidney perfusion or severe renal dysfunction that needs urgent evaluation.

18. (d) Prepare for emergency surgery

A previously reducible inguinal hernia that becomes acutely irreducible and tender is likely to be strangulated or obstructed. This is a surgical emergency, as compromised blood supply to the entrapped bowel can lead to ischemia and necrosis if not promptly addressed. Conservative management, antibiotics alone, or mere hot fomentation cannot correct the underlying vascular compromise. Immediate surgical exploration and repair (potentially with bowel resection if necrotic) is the appropriate course of action.

19. (c) Base by iliac vessels

In laparoscopic inguinal hernia repair, the "triangle of doom" is defined by the vas deferens medially and the gonadal (testicular) vessels laterally, converging at the internal ring. This area contains the external iliac vessels and is indeed high risk ("dangerous") for dissection and potential vascular injury. However, describing the "base" specifically as "by iliac vessels" is not accurate terminology for its boundary; the iliac vessels lie within the triangle rather than forming a "base." Hence that statement is incorrect.

20. (b) Obturator

Obturator hernias occur through the obturator foramen in the pelvis and are more common in elderly, malnourished women, not truly classified among the lateral abdominal wall hernias. Spigelian hernias (through the Spigelian fascia) and lumbar hernias (superior lumbar hernia of Grynfeltt-Lesshaft and inferior lumbar hernia of Petit) are indeed rare lateral abdominal wall hernias. Consequently, "obturator hernia" is the exception here because it is a pelvic rather than a lateral abdominal wall defect.

21. (d) Bowel adhesion to mesh

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A "curtain falling" or "veil" coming across the field of vision is a hallmark symptom of acute retinal detachment. Patients may also describe flashes of light (photopsia) or floaters prior to losing part of their visual field. Vitreous hemorrhage can obscure vision but often lacks the distinct "curtain" description. Acute ptosis affects eyelid position rather than producing a curtain-like visual field loss, and intracranial hemorrhage has more systemic/neurological features. Prompt ophthalmological evaluation is required.

36. (d) Hepatoduodenal ligament

The Pringle maneuver involves clamping the hepatoduodenal ligament (which contains the hepatic artery proper and the portal vein) to control hemorrhage from the liver. By temporarily occluding blood inflow to the liver, surgeons can identify whether bleeding is originating from hepatic inflow or from other sources (e.g., hepatic veins). This maneuver helps achieve a "bloodless" surgical field in liver trauma or hepatic resections, but it cannot control bleeding from the hepatic veins or inferior vena cava.

37. (c) Basal cell cancer

Basal cell carcinoma (BCC) is the most frequent malignant eyelid tumor, often arising on the lower lid or medial canthus because of higher sun exposure. It typically presents as a pearly, rolled-edge lesion that may ulcerate (rodent ulcer) but rarely metastasizes, instead causing local tissue destruction. Meibomian (sebaceous) carcinoma is less common but more aggressive. Neurofibromas are benign, while "pseudotumour" describes an inflammatory or idiopathic mass-like lesion rather than a true malignancy.

38. (b) Claudication of the calf

Classic Leriche syndrome (aortoiliac occlusion) presents with buttock and thigh claudication, diminished or absent femoral pulses, and erectile dysfunction ("sexual impotence") in males. Although distal flow can be compromised, the hallmark is proximal (buttock/thigh) claudication rather than isolated calf claudication (which is more typical of superficial femoral artery disease). Advanced Leriche syndrome may cause ischemic changes and gangrene in the feet. Hence "claudication of the calf" alone is not the classic or defining symptom.

39. (d) Tumor necrosis factor

Tumor Necrosis Factor (TNF), along with interleukins (IL-1, IL-6, etc.), is classified as a major pro-inflammatory cytokine driving SIRS and septic shock. While nitric oxide, complement proteins, and leukotrienes also play roles in inflammation, TNF is directly referred to as a cytokine that orchestrates many downstream inflammatory pathways. Elevated TNF levels lead to vasodilatation, increased vascular permeability, and contribute to the systemic manifestations of severe infection or inflammation characteristic of SIRS and sepsis.

40. (b) Recurrent laryngeal nerve

During thyroidectomy, the recurrent laryngeal nerve (RLN) lies in close relation to the thyroid gland and the inferior thyroid artery. Injury to the RLN often results in ipsilateral vocal cord paralysis, leading to hoarseness or breathy voice. The external branch of the superior laryngeal nerve affects pitch modulation but not full vocal cord paralysis. Ansa cervicalis (motor to infrahyoid muscles) and the main vagus trunk are less commonly at risk in standard thyroid resections compared to the RLN.

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41. (c) Gonorrhoea

Gonorrhea (Neisseria gonorrhoeae) classically presents with a purulent, yellowish or greenish vaginal discharge and can involve the Bartholin's glands (Bartholin abscess or cyst). Rectal involvement (proctitis) is also possible, particularly in sexually active individuals. Trichomoniasis often produces a frothy green discharge, but less commonly causes Bartholin cyst or proctitis. Syphilis typically has painless ulcers (chancre), and Candidiasis causes a white "curd-like" discharge with itching.

42. (b) History of thrombo-embolism

A personal history of thromboembolic disease (e.g., deep vein thrombosis or pulmonary

hominis, and Ureaplasma urealyticum, among others. This overgrowth causes a thin, grayish discharge with a characteristic fishy odor. Hence, all three organisms listed can be involved in BV, making option (d) correct.

57. (d) Cervix

Antisperm antibodies can form in either partner and often reside in cervical mucus, where they bind sperm and impair motility or viability, leading to infertility issues. While antisperm antibodies may theoretically be detected in serum or other reproductive sites, the cervix is typically where they exert the greatest effect, preventing normal sperm transit into the upper reproductive tract. Testing for these antibodies often involves postcoital tests or specialized immunologic evaluations of the cervical mucus.

58. (d) Position of occiput

The (modified) Bishop score is used to assess cervical "readiness" for induction of labor. It traditionally considers cervical dilation, cervical length (or effacement), station of the presenting part, consistency of the cervix, and position (anterior/posterior) of the cervix/Os itself. The position of the fetal occiput is not part of this scoring system. Instead, it is the cervical position in the pelvis, not the fetal head position, that directly factors into the Bishop score.

59. (a) Mento-vertical

In a brow presentation, the fetal head is partially extended so that the brow (forehead) becomes the presenting part. The engaging diameter is the mentovertical, which measures about 13.5 cm. This larger diameter often creates difficulties with normal vaginal delivery. Submento-vertical and suboccipito-bregmatic diameters are associated with face and occiput presentations, respectively, and are typically smaller. Brow presentations may require intervention if spontaneous conversion to an occiput or face presentation does not occur.

60. (c) Reduce the staining

When giving iron dextran intramuscularly, the Z-track method displaces the skin and subcutaneous tissue laterally before the injection. After injecting, the skin is released, trapping the medication within the muscle rather than letting it leak back into subcutaneous tissues or the skin. This helps prevent local staining (the dark discoloration of skin), irritation, and reduces the chance of subcutaneous tracking. While it may also reduce discomfort or infection risk, its most well-known purpose is to avoid staining of the skin.

61. (c) Both 1 and 2

PID risk factors include high-risk sexual behaviors, particularly having multiple partners. Intercourse during menstruation also increases vulnerability because the cervical canal is more open and the local protective barriers may be reduced, facilitating ascending infection. Additional factors include douching, prior history of PID, and lack of barrier contraception. Thus both listed factors contribute to the likelihood of acute pelvic inflammatory disease.

62. (c) Two arteries and one vein

A normal umbilical cord has two umbilical arteries (carrying deoxygenated blood from fetus to placenta) and one umbilical vein (carrying oxygen-rich blood from placenta to fetus). The presence of a single umbilical artery can be associated with certain fetal anomalies. Having two veins is uncommon and also an abnormal variation. Thus, "two arteries and one vein" is the standard cord vascular composition.

63. (a) Grannloma inguinale

Granuloma inguinale (donovanosis) caused by Calymmatobacterium granulomatis presents with beefy red, highly vascular granulomatous ulcers that are typically painless and bleed easily on contact. In contrast, chancroid (caused by Haemophilus ducreyi) and herpes simplex cause painful ulcers, while lymphogranuloma venereum often manifests with significant inguinal lymphadenopathy. The relatively painless, progressive ulceration with rolled-out edges is characteristic of granuloma inguinale.

64. (b) β HCG level more than 10,000 IU

A key requirement for methotrexate management of ectopic pregnancy is a relatively

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of menstruation at day 10 is unlikely, and an infected episiotomy wound typically presents with local pain, discharge, and fever rather than heavy uterine bleeding.

50. (a) Polycystic ovarian syndrome

Centchroman (ormeloxifene) is a non-steroidal, selective estrogen receptor modulator (SERM) used as a contraceptive in India. Although it has certain benefits (e.g., in fibrocystic breast changes), it is contraindicated or to be used with caution in women with conditions like polycystic ovarian syndrome (PCOS), where cycle irregularities and hormonal imbalances may be exacerbated. It can be beneficial for dysfunctional uterine bleeding (DUB) in some protocols. Hence PCOS is the more recognized relative/absolute contraindication among these options.

51. (c) Cancer of cervix

Long-term use of combined oral contraceptive pills reduces the risk of ovarian and endometrial cancers, partly due to suppressed ovulation and endometrial stabilization. They also lower the incidence of ectopic pregnancy by preventing conception. However, prolonged COC use is not protective against cervical cancer and, in fact, has been associated with a slightly increased risk of cervical neoplasia (related partly to HPV and sexual behavior factors). Thus, "cancer of cervix" is the exception in this protective list.

52. (c) Chancroid

Chancroid, caused by Haemophilus ducreyi, is characterized by painful genital ulcers with ragged undermined borders and no firm induration (they are often termed "soft chancres"). The discharge can be purulent or foul smelling, and tender inguinal lymphadenopathy (buboes) commonly occurs. Gonorrhea typically presents with a purulent cervical/vaginal discharge rather than discrete ulcers. Genital tuberculosis is relatively uncommon and usually chronic. Trichomoniasis causes a frothy discharge but not sharply demarcated ulcers.

53. (b) Asherman syndrome

Asherman syndrome refers to the formation of intrauterine adhesions (synechiae), most commonly resulting from uterine instrumentation such as dilatation and curettage (D&C). These scarred areas can lead to reduced or absent menstrual flow and secondary amenorrhea. Kallmann syndrome involves hypothalamic dysfunction and typically presents earlier in life, Turner syndrome has characteristic genetic features with primary amenorrhea, and anorexia nervosa has systemic manifestations related to severe weight loss. Post-D&C amenorrhea classically indicates Asherman syndrome.

54. (a) Frie's test

Syphilis serologic tests include the non-treponemal (VDRL, RPR) and treponemal (TPHA, FTA-ABS, direct fluorescent antibody) methods. FTA-ABS (Fluorescent Treponemal Antibody Absorption) and TPHA (Treponema pallidum Hemagglutination) are well-established treponemal tests; direct fluorescent antibody testing also detects Treponema pallidum. Frei's test, however, is employed in diagnosing Lymphogranuloma venereum (LGV) caused by Chlamydia trachomatis, not syphilis. Hence, it is the incorrect option for diagnosing syphilis.

55. (d) Gonorrhoea

Fitz-Hugh-Curtis syndrome is inflammation of the liver capsule (perihepatitis) typically associated with pelvic inflammatory disease (PID), classically due to Neisseria gonorrhoeae or Chlamydia trachomatis. Patients may have right upper quadrant pain and "violin string" adhesions between the liver capsule and anterior abdominal wall. Moniliasis (candidiasis), syphilis, or tuberculosis are not the usual organisms that cause this localized perihepatitis.

56. (d) 1, 2 and 3

Bacterial vaginosis (BV) is a polymicrobial syndrome associated with an overgrowth of anaerobic bacteria and a decrease in normal lactobacilli. Commonly implicated organisms include Gardnerella vaginalis Mycoplasma

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72. (c) 1 and 3 only

Conjoined twins arise from a single fertilized egg (thus they are always monozygotic). The incomplete splitting typically occurs after formation of the embryonic disc (usually beyond day 13 of embryonic life). They remain physically joined at some anatomical site. The most common type is thoracopagus (joined at the chest). Hence statement 2 is incorrect because it should be that the division happens late (after the embryonic disc has formed), not before.

73. (a) Both active and passive immunisation soon after birth

All neonates born to mothers positive for hepatitis B surface antigen (HBsAg) require prophylaxis with both hepatitis B immunoglobulin (HBIG) and the hepatitis B vaccine at birth—irrespective of HBeAg status. The HBIG provides immediate passive protection, while the vaccine (active immunization) stimulates the newborn's immune system. Delaying the vaccine to one year or giving only one form of prophylaxis is insufficient to prevent vertical transmission.

74. (d) 2 only

1. Early decelerations: Typically due to fetal head compression (mirroring contractions), not cord compression.
2. Late decelerations: Related to uteroplacental insufficiency (e.g., maternal hypotension, excessive uterine activity) — Pair 2 is correct.
3. Variable decelerations: Commonly due to umbilical cord compression, not just head compression.

Hence only statement 2 is correctly matched.

75. (b) Colposcopy and directed biopsy

High-grade squamous intraepithelial lesion (HSIL, sometimes written HGSIL) is a serious abnormal Pap smear finding, often corresponding to CIN 2 or CIN 3. The first step is detailed colposcopic examination and directed biopsy to confirm the extent and severity of dysplasia. Definitive treatment (e.g., LEEP or conization) may follow once histopathology confirms high-grade lesion or microinvasion. VIA (visual inspection) alone is not adequate in an HSIL scenario, and immediate excisional procedures without colposcopic mapping risk overtreatment.

76. (c) TVT-O mid urethral tape

Although pelvic floor exercises (Kegel's) are a first-line conservative measure, the most definitive and effective current surgical treatment for genuine stress urinary incontinence is a tension-free mid-urethral sling (TVT or TOT). This technique provides support to the mid-urethra, minimizing urine leakage on exertion. Kelly's placation is older and less commonly done now; periurethral bulking agents have lower success rates. Hence the mid-urethral sling is considered the treatment of choice.

77. (d) 1, 2 and 3

During the third stage of labor, the placenta detaches from the decidua basalis, specifically at the spongy layer (decidua spongiosa). In the Schultze mechanism ("fetal side first"), the placenta detaches centrally and inverts as it descends. In the Matthew Duncan mechanism ("maternal side first"), separation occurs from the margin and the placenta delivers sideways. All three statements accurately reflect these classic descriptions of placental separation.

78. (c) Mayer Rockitansky Kuster Hauser syndrome

Mayer Rokitansky Kuster Hauser (MRKH) syndrome (Müllerian agenesis) is characterized by congenital absence of the uterus and upper part (often most) of the vagina. However, the ovaries (and their normal estrogen production) remain present, so secondary sexual characteristics develop normally. By contrast, complete Androgen Insensitivity Syndrome typically involves testes (not ovaries), and Klinefelter's affects males (47,XXY). Prader-Willi syndrome presents differently (obesity, hypotonia, hypogonadism). Thus the finding of normal ovaries plus absent uterus and vagina points strongly to MRKH.

79. (b) Surgical repair of cervical tear

In postpartum hemorrhage, if the uterus is already firm (i.e., not atonic), the bleeding is

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lower β-hCG level (commonly <5000 IU or <10,000 IU, depending on protocol). Very high β-hCG significantly reduces success rates. Additional criteria include no fetal cardiac activity, stable vitals, and small gestational sac. If β-hCG >10,000, the likelihood of medical treatment failing is high. Thus (b) is the contraindication among these choices.

65. (d) Neonatal jaundice

Intrahepatic cholestasis of pregnancy (ICP) is linked to adverse fetal outcomes, including fetal distress, intrauterine death, meconium-stained liquor, and a higher risk of preterm delivery. The elevated bile acids cross the placenta, possibly triggering fetal compromise. While mild jaundice may occur in the mother, routine neonatal hyperbilirubinemia is not considered a hallmark "complication" from ICP itself. Hence among the listed outcomes, "neonatal jaundice" is the least characteristic consequence.

66. (d) Bacterial vaginosis

Bacterial vaginosis (BV), caused by an overgrowth of anaerobic bacteria (e.g., Gardnerella, Mycoplasma), is strongly associated with obstetric complications such as preterm labour, premature rupture of membranes, and low birth weight. Other listed infections can have various reproductive sequelae, but BV's link to preterm labor is well-documented, which is why it is screened for and treated in at-risk pregnancies.

67. (d) Post date pregnancy

Twin or multiple gestations tend to deliver earlier, hence post-term (post-date) delivery is less common. Multiple pregnancies do carry higher risks of hyperemesis gravidarum, congenital anomalies (especially with monozygotic multiples), and pregnancy-induced hypertension (PIH/preeclampsia). They rarely go to 40+ weeks, as the uterus often reaches functional capacity sooner. Consequently, post-date pregnancy is notably uncommon in multiple gestations.

68. (b) Complex hyperplasia with atypia

Endometrial hyperplasia is classified by architectural complexity (simple vs. complex) and the presence or absence of cellular atypia. Complex hyperplasia with atypia carries the highest risk of progression to endometrial carcinoma (up to 30% or more in some studies). Simple hyperplasia without atypia has a low malignant potential, and simple or complex hyperplasia without atypia is significantly less dangerous. The presence of atypical cells, especially in a complex pattern, most strongly correlates with malignancy risk.

69. (b) Gestational trophoblastic neoplasia

Gestational trophoblastic neoplasia (GTN) is staged primarily via clinical and biochemical parameters (β-hCG levels), not by surgical staging. In contrast, ovarian, endometrial, and fallopian tube cancers are evaluated by surgical procedures to accurately stage disease extent. GTN often responds well to chemotherapy, and its classification depends on risk scoring systems (WHO/FIGO) rather than a purely surgical staging approach.

70. (a) compresses the uterus

The B-Lynch suture is a conservative surgical technique to manage severe postpartum hemorrhage due to uterine atony. It involves using a special brace suture around the uterus to compress and stabilize the uterine walls, thereby aiding hemostasis. It does not ligate arteries (unlike internal iliac or uterine artery ligation). Because it preserves the uterus, it may help avoid hysterectomy if successful.

71. (b) 2 only

Delancey's system describes three levels of pelvic support:

1. Level I: Suspends the upper vagina (apex) to the uterosacral/cardinal ligaments.
2. Level II: Supports the mid-vagina to the arcus tendineus fascia pelvis.
3. Level III: Anchors the distal vagina to the urogenital diaphragm and perineum (supporting the urethra and perineal body).

Hence:

Pair 1 (Level I → distal urethra) is incorrect.

Pair 2 (Level II → mid-vagina) is correct.

Pair 3 (Level III → apical defect) is incorrect.

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answers, none excludes 4 while including 1, 2, and 3. In practice, the recognized "ABCD" of nutritional assessment is Anthropometric, Biochemical, Clinical, and Dietary. Since 4 is not used, the best approximate choice is to exclude it.

103. (b) Generally more expensive than prospective studies

In a retrospective cohort study, participants are selected based on exposure status in the past, and outcomes that have already occurred are ascertained from records or existing data. Such studies typically cost less than prospective cohorts because they do not require lengthy follow-up into the future. They also yield results faster since all events have already transpired. The investigator indeed "goes back in time" to identify and classify subjects. Hence claiming they are "generally more expensive" is the incorrect statement.

104. (b) 4, 1, 2, 3

Preventive measures are classically grouped as:

1. Primordial/Primary prevention: which includes (4) Health promotion and (1) Specific protection (e.g., vaccination, avoiding risk factors).
2. Secondary prevention: which is (2) Early diagnosis and prompt treatment (to halt disease progression).
3. Tertiary prevention: which is (3) Disability limitation and rehabilitation (to reduce complications and restore function).

Hence the sequence of 4 → 1 → 2 → 3 describes the logical progression through primary, secondary, and tertiary prevention.

105. (d) All of these

Epidemiology is pivotal for understanding disease trends historically (how they arise and decline over time), for describing and monitoring population health (i.e., community diagnosis), and for defining or grouping clinical presentations into syndromes or disease entities. It also aids in planning, evaluating health services, and guiding preventive measures. Thus, all the listed options (a), (b), and (c) are recognized applications of epidemiological methods.

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106. (b) 1 and 2

Folic acid is essential for red blood cell maturation and normal hematopoiesis, and it is also crucial for the synthesis of nucleic acids (DNA, RNA). However, folic acid is not heat-stable at high temperatures: prolonged boiling or cooking destroys a significant fraction of its activity. Hence it is incorrect to say it is "resistant" to boiling. Statements 1 and 2 are true, while 3 is false.

107. (d) Perinatal Mortality Rate

Perinatal mortality rate (PNMR) includes both late fetal deaths (stillbirths beyond a certain gestational age) and early neonatal deaths (typically within the first 7 days of life). It thus reflects pregnancy wastage plus the effectiveness of care around birth—covering antenatal, intranatal, and immediate neonatal care. While stillbirth or infant mortality alone each capture part of the picture, PNMR more comprehensively indicates the standard of obstetric and neonatal services and maternal health.

108. (d) Removal of water plants

Mosquitoes of the genus Mansonia (or Mansonoides) develop larvae that attach themselves to aquatic plants for oxygen. Because they require plant surfaces for breathing, simply oiling the water or using standard larvicides may be less effective. Instead, removal or reduction of aquatic vegetation (like water plants and weeds) in breeding habitats interrupts their life cycle. Thus, controlling these plants is the most effective measure to combat Mansonia mosquitoes.

109. (c) Total Fertility Rate

Total Fertility Rate (TFR) is the average number of children a woman would bear during her reproductive years (usually ages 15–49), assuming current age-specific fertility rates remain constant. It is considered a robust estimate of "completed family size" if fertility conditions do not change. General Fertility Rate

unlikely due to uterine atony. Other causes (the "4 Ts": Trauma, Tissue, Thrombin, Tone) must be considered. A firm uterus plus persistent heavy bleeding frequently suggests a genital tract laceration—such as a cervical tear. Repairing the tear surgically is key to controlling hemorrhage in this scenario. B-Lynch suture is used for atonic uteri, prostaglandins help if atony is suspected, and uterine inversion requires manual or surgical correction.

80. (d) 1, 2 and 3

1. The LH surge indeed triggers and precedes ovulation.
2. Estradiol rises in the late follicular phase (peaking just before ovulation) and then has a second, smaller peak in the mid-luteal phase.
3. Progesterone is low in the early and mid-follicular phase and has a single major peak in the mid-luteal phase, produced mainly by the corpus luteum.

Hence, all three statements are correct regarding normal menstrual physiology.

81. (b) 3 only

"Dispersion" refers to how spread out the data are around the central value. Standard deviation (SD), variance, and range are examples of measures of dispersion. By contrast, mode and median are measures of central tendency. The mode is the most frequently occurring value in a distribution, and the median is the middle value. Hence only standard deviation (3) qualifies as a measure of dispersion among the options listed.

82. (a) 1 only

Primordial prevention aims to prevent the emergence of risk factors themselves (e.g., establishing healthy eating, exercise habits early in life). Primary prevention (like immunization) seeks to prevent the disease in a person who does not yet have it by reducing specific exposures or boosting immunity. Secondary prevention (like screening for cervical cancer) detects disease early to prevent complications. Thus, only "adopting healthy lifestyles from childhood" counts as primordial prevention among the choices.

83. (c) Chi-square test

If one is studying whether obesity (often categorized as obese vs. non-obese) is associated with breast cancer (present vs. absent), both variables are typically categorical. The chi-square test is the classical test for assessing the association between two categorical variables. Student's t-tests compare means of continuous data, and Wilcoxon's signed rank test is a non-parametric analog for paired or matched continuous data. Thus, a chi-square test best determines whether obesity is linked to higher risk of breast cancer in a sample.

84. (b) Randomization during selection

Case-control studies do not generally employ randomization, which is a feature of experimental or randomized controlled trials. Matching (pairing cases and controls by age, sex, etc.) and stratification (analyzing subgroups separately) are common ways to handle confounding in observational research. While simply enlarging the sample size does not always "eliminate" confounding, it can reduce sampling error. Among the listed options, randomization is the method typically not used in a retrospective case-control design.

85. (b) Distributed equally between study and control groups

A confounding factor is independently related to both the exposure and the outcome but is not part of the causal pathway. If it were distributed equally among study and control groups, it would not confound the association. Confounding creates bias if it is unevenly distributed. It is indeed an independent risk factor, and the bias arises when its presence is misinterpreted as an effect of the primary exposure. Thus, claiming it is "distributed equally" is false.

86. (c) Total number of cases due to the disease concerned

The case fatality rate (CFR) is the proportion of individuals diagnosed with a specific disease who die from that disease in a given time period:

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Hence, the denominator must be the total number of cases of that disease, not admissions or total deaths from all causes.

87. (b) Common source, continuous exposure epidemic

When a contaminated well (or similar water supply) remains in continuous use, people are repeatedly exposed to the same pathogen over time. This leads to a continuous common source outbreak, in which new cases keep appearing as long as exposure persists. A single-exposure (point source) outbreak typically involves one-time contact (e.g., a single meal). A slow or propagated epidemic involves person-to-person spread over successive waves, whereas continuous exposure is perpetuated by the persistent common contamination source.

88. (d) Secondary attack rate

Secondary attack rate gauges how readily an infection spreads among susceptible contacts after an index case enters a defined group (household, closed setting). A high secondary attack rate implies greater communicability. Incidence tracks new cases in a population over time; prevalence reflects all existing cases at a point/period; and case fatality rate measures lethality, not communicability. Hence the secondary attack rate is the best direct measure of the ease of transmission.

89. (a) Very useful indicator for both acute and chronic diseases

Case fatality rate (CFR) is most informative for acute or short-duration conditions, where one can clearly track cases and deaths in a relatively narrow time window (e.g., cholera, plague). In prolonged chronic diseases, CFR becomes less practical and is usually replaced by measures like survival rates over years. CFR does reflect virulence, is expressed as deaths per cases × 100%, and can vary with pathogen strains or host factors. The incorrect statement is that it's "very useful" for chronic diseases.

90. (a) Grain dust with actinomycetes

Farmer's lung is a hypersensitivity pneumonitis triggered by inhaling moldy hay or grain dust harboring thermophilic actinomycetes (such as Micropolyspora faeni). This exposure elicits an immune-mediated inflammatory response in the lungs. Sugarcane dust inhalation can cause bagassosis, silica dust causes silicosis, and cotton dust causes byssinosis. Thus "grain dust with actinomycetes" specifically fits Farmer's lung.

91. (c) National AIDS Control Programme

"Suraksha Clinics" (also called "Safe Clinics") were set up as specialized STI/RTI clinics by India's National AIDS Control Organisation (NACO). They focus on diagnosis, counseling, and treatment of sexually transmitted infections and reproductive tract infections to reduce transmission and improve sexual health services. This initiative falls under the National AIDS Control Programme (NACP).

92. (c) 95.4 % values

In a normal (Gaussian) distribution, about 68.3% of values lie within 1 standard deviation (SD) of the mean, approximately 95.4% within 2 SD, and roughly 99.7% within 3 SD. These are the standard empirical rules (68–95–99.7 rule) for distribution spread. Hence ±2 SD encompasses roughly 95% of the data.

93. (b) 1000 live births

Infant Mortality Rate (IMR) is defined as the number of deaths of infants (under 1 year of age) per 1000 live births in a given year or place. It is a key indicator of population health. Maternal mortality ratio, by contrast, uses 100,000 live births as the denominator.

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94. (d) Orthotolidine test

To assess proper pasteurization, one commonly uses the phosphatase test (should be negative if pasteurization is adequate), standard plate count (reflects overall microbial load), and coliform count (indicator of sanitary quality). The orthotolidine test is typically used for detecting residual chlorine in water (a color change occurs in the presence of chlorine) or for blood detection in other contexts. It is not a standard pasteurization-quality test.

95. (c) Agent, host and environmental factors

The classic epidemiological triad in communicable disease epidemiology consists of:

1. Agent (organism/causative factor),
2. Host (the person or animal susceptible to the agent), and
3. Environment (external conditions influencing disease transmission).

Sensitivity/specificity (option a) relate to diagnostic test parameters; time/place/person distribution (option b) relates to descriptive epidemiology; and prevalence/incidence/attack rates (option d) are measures of disease frequency.

96. (b) 1, 2, 3 and 4

Ergonomics is concerned with optimizing human well-being and overall system performance. It aims to design equipment and workflows to suit people's physical and cognitive needs, thus improving (1) design of tools, (2) efficiency, (3) workplace layout, and (4) lowering the risk of industrial accidents. By matching workplace demands to workers' capacities, ergonomics reduces fatigue, errors, and injuries.

97. (b) Incidence Rate

Incidence reflects the number of new cases arising in a population over a specific time, thus indicating the risk or probability of developing the disease. Prevalence measures all existing cases (old and new) at a given time. Fatality rate (case fatality rate) measures the likelihood of death among those who have the disease, and attrition rate often applies to dropouts or losses in a study.

98. (d) Gamma irradiation

The spores of Clostridium tetani are exceptionally resistant and survive boiling, many disinfectants, and standard antibiotic concentrations. Gamma irradiation (or proper autoclaving at high temperature and pressure) is one of the few methods that reliably destroys them. Penicillin, antitetanus serum, and tetanus toxoid are important in treatment or prophylaxis but do not outright kill spores.

99. (b) 1, 2, 3 and 4

Standard WHO cutoffs for diagnosing anemia are:

1. Adult male <13 g/dl
2. Adult non-pregnant female <12 g/dl
3. Pregnant female <11 g/dl
4. Children (6 months–5 years) <11 g/dl.

All four statements correctly represent these thresholds, so they are all correct.

100. (c) Health Assistant (Female)

In India's primary healthcare setup:

1. Health Worker (Female) or ANM is typically posted at the subcentre (the most peripheral health facility).
2. ASHA is a community volunteer working under the National Health Mission.
3. Anganwadi Worker is part of the ICDS program for early childhood care, not directly a PHC staff.
4. The Health Assistant (Female) (also called Lady Health Visitor, LHV) usually works at the PHC, supervising ANMs and other maternal–child health activities.

Hence (c) is the correct functionary at the PHC level.

101. (c) When the child completes nine months of age

In an outbreak, measles vaccination can be given earlier (e.g., at 6–8 months) to curb transmission. However, this early dose does not replace the routinely scheduled dose. The child should still receive the standard first measles dose at 9 months (as per national immunization schedules). Giving it after four weeks from 7 months would be only 8 months old, still earlier than recommended. The usual second dose or booster (like MMR) follows later (often 15–18 months).

102. (d) 1, 2, 3 and 4

Correct Answer (by standard teaching): There is no perfect match in the listed options, but the commonly accepted methods are Clinical exam, Anthropometry, and Biochemical evaluation. Orthotolidine test is unrelated (used for checking chlorine in water or blood detection). Therefore, if forced to choose among these provided

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embolism) is an absolute contraindication to combined oral contraceptive (COC) use because estrogen increases coagulability and the risk of recurrent clots. Gestational diabetes (GDM), prior cesarean deliveries, and mild gallbladder disease may be relative or situational contraindications, but not absolute. Strict screening for a prothrombotic tendency is essential before prescribing COCs to minimize life-threatening complications.

43. (a) Mucinous cystadenoma of ovary

Pseudomyxoma peritonei is a clinical entity characterized by the accumulation of mucinous material within the peritoneal cavity. It most commonly arises from mucin-producing tumors of the appendix or ovary—particularly mucinous cystadenomas (or cystadenocarcinomas) of the ovary that rupture. Serous cystadenomas typically do not produce copious mucin. Dermoid tumors (mature teratomas) can contain various tissue elements but rarely cause pseudomyxoma. Endometriosis leads to ectopic endometrial tissue, not mucinous ascites.

44. (c) Colposcopy, cervical biopsy, endocervical curettage and endometrial biopsy

Atypical glandular cells (AGC) on Pap smear raise concerns for cervical canal or endometrial pathology, including precancerous or malignant lesions. The recommended evaluation includes a thorough colposcopic examination of the cervix, directed cervical biopsies, endocervical sampling (endocervical curettage), and an endometrial biopsy to exclude endometrial disease. Simply repeating the Pap test or doing only a cervical biopsy may miss a pathology higher in the endocervical canal or uterus.

45. (b) Laparoscopic cystectomy

A simple ovarian cyst measuring 10 cm in a perimenopausal or postmenopausal woman warrants surgical removal, even though the CA-125 is normal. The large size alone confers a risk of complications (torsion, rupture) and a possibility of borderline/malignant transformation. Typically, a laparoscopic cystectomy (removing just the cyst) is favored if imaging and tumor markers suggest benign pathology. Total hysterectomy with bilateral salpingo-oophorectomy may be considered if there are suspicious features or other gynecological indications.

46. (d) Granulosa cell tumour

Granulosa cell tumors are sex cord–stromal tumors of the ovary that secrete estrogen. In young girls, excess estrogen can present as precocious puberty. A large ovarian mass (10 cm) plus signs of early sexual development is classically associated with a juvenile granulosa cell tumor. Benign teratomas (dermoids) usually do not cause precocious puberty. Brenner tumors are uncommon and often hormonally inactive. Choriocarcinoma may produce β-hCG but typically presents differently.

47. (c) Conservative with follow up ultrasound

A simple, unilocular, echo-free cyst of 5 cm in an adolescent with normal CA-125 levels is highly likely to be functional or benign. Many such cysts resolve spontaneously. Hence, the standard approach is conservative management with periodic ultrasound monitoring to confirm regression or detect changes. Invasive surgery is reserved for persistent, enlarging, or suspicious cysts.

48. (c) Levonorgestrel intrauterine device

A levonorgestrel-releasing intrauterine device (LNG-IUS) can significantly reduce menstrual flow and help dysmenorrhea while providing effective contraception. In contrast, estrogen-containing combined oral contraceptive pills carry a higher cardiovascular risk in women with chronic hypertension (especially older than 35). A copper IUD may increase menstrual bleeding, which is undesirable in menorrhagia. Sterilization is a permanent option but does not address menorrhagia/dysmenorrhea.

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49. (b) Subinvolution of placental site

Secondary postpartum hemorrhage (occurring after the first 24 hours up to 6 weeks) is commonly due to subinvolution of the uterus—particularly at the placental site—leading to continued or renewed bleeding around 1–2 weeks postpartum. Retained placental fragments can cause earlier and more continuous bleeding. Resumption

(GFR) and Age-Specific Fertility Rates measure births in specific time frames or age bands, and Gross Reproduction Rate focuses on female births. TFR best captures the total childbearing pattern.

110. (c) Give nutritional counselling to the mother

Under the ICDS (Integrated Child Development Services), the Anganwadi Worker's initial step upon detecting moderate undernutrition is to provide nutrition education and counseling to the mother (dietary improvement, hygiene, feeding frequency). The child may also be enrolled in supplementary feeding. Referral to a rehabilitation center is reserved for severe malnutrition or complicated cases. Deworming can help if worm infestation is suspected, but not before basic dietary counsel and assessing severity. Hence counseling is the first intervention.

111. (d) 1, 2 and 3

Standard anthropometric assessments for under-five children include:

1. Weight measurement (tracking weight-for-age),
2. Height (or length) measurement (tracking stunting, i.e., height-for-age),
3. Mid Upper Arm Circumference (MUAC) to screen for acute malnutrition.

All these indices help identify underweight, wasting, or stunting and guide appropriate nutritional interventions.

112. (b) 2 and 3 only

Global criteria for Severe Acute Malnutrition (SAM) in 6–59-month children include any of:

1. Bilateral pitting edema (2), or
2. Weight-for-height (or length) Z-score < –3 SD (3), or MUAC <115 mm (11.5 cm).

Weight-for-age < –3 SD reflects "underweight" but is not the standard WHO definition of acute malnutrition. Also, the standard MUAC cutoff for SAM is <11.5 cm, not <12 cm. Hence 2 and 3 accurately represent recognized SAM indicators among these options.

113. (d) 1, 2, 3 and 4

Under RMNCH+A (Reproductive, Maternal, Newborn, Child, and Adolescent Health), essential obstetric care components include:

1. Early antenatal registration and regular checkups.
2. Availability of First Referral Units (FRUs) for complications.
3. Safe delivery by skilled birth attendants.
4. Adequate postnatal visits (at least 4) for mother and newborn.

All four statements reflect key policy elements in delivering comprehensive maternal and newborn care.

114. (b) Two doses of Tetanus Toxoid vaccine should be administered

Current guidelines in India advise two doses of TT (Tetanus Toxoid) for pregnant women if their last TT immunization was more than 3 years ago. A single booster dose may suffice only if the woman was immunized within the past 3 years. Since her last TT was 4 years ago, she is considered inadequately protected, so two TT injections at least 4 weeks apart are required in this pregnancy.

115. (c) Both 1 and 2

Quarantine involves restricting the movement of people, vehicles, or goods exposed (or potentially exposed) to a contagious disease but not yet ill. It can indeed apply to ships, aircraft, trains, or even containers. The quarantine period typically matches the disease's maximum incubation or at least the usual incubation window, to watch for symptoms. Both listed statements accurately reflect standard quarantine principles.

116. (d) Collect data about the suspected vaccine

When investigating a suspected AEFI, initial steps focus on gathering accurate data—verifying details of the immunization session, vaccine storage, and usage. One must confirm the vaccine's batch number, expiry, cold chain records, and identify potential handling errors before hypothesizing the cause. Forming a hypothesis (option a) or directly observing the service (option b) usually follows after the initial data-collection phase. Ensuring the factual

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60. The following are manifestations of psychosis except:
(a) Psychoneurosis
(b) Schizophrenia
(c) Manic depressive psychosis
(d) Paranoia

61. Consider the following definitions:
'Effectiveness measures the extent to which predetermined objectives are achieved. Efficiency measures how well the resources are utilized.'
In view of these definitions, which of the following assertions are true?
1. Percentage of bed occupancy measures effectiveness
2. Immunization coverage rate measures efficiency
3. Cost per patient treated measures efficiency
4. Reduction in mortality measures effectiveness

Select the correct answer using the code given below:
(a) 1 and 2
(b) 2 and 3 only
(c) 3 and 4 only
(d) 2, 3 and 4

62. With reference to the Revised National Tuberculosis Control Programme, consider the following statements:
1. Active case finding is pursued under this Programme.
2. Microscopy centres are established in the districts for every one lakh population and in hilly and tribal areas for every 50,000 population.

Which of these statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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63. Districts are classified into different categories regarding neonatal tetanus risk. Which one of the following correctly describes 'Neonatal Tetanus Elimination' status?
(a) Incidence rate more than 2/1000 births, two doses of TT vaccine coverage less than 70%, attended deliveries between 60% and 70%
(b) Incidence rate between 1 to 2/1000 births, three doses of TT vaccine coverage 70%, attended deliveries more than 75%
(c) Incidence rate 0.5 to 1/1000 births, three doses of TT vaccine coverage between 70% and 80%, attended deliveries between 65% and 70%
(d) Incidence rate less than 0.1/1000 births, two doses of TT vaccine coverage more than 90%, attended deliveries more than 75%

64. Influenza vaccine is recommended for:
1. Elderly
2. Persons with underlying chronic diseases
3. HIV infected
4. General population

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 4
(c) 2 and 3 only
(d) 1, 2 and 3

65. With reference to mumps, consider the following statements:
1. The average age of incidence of mumps is higher than that of measles and chicken pox.
2. The mumps disease tends to be more severe in adults than in children.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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QUESTION PAPER 2016

1. In a sutured surgical wound, the process of epithelialization is completed within:
   (a) 24 hours
   (b) 48 hours
   (c) 72 hours
   (d) 96 hours

2. Extensive surgical debridement, decompression or amputation may be indicated in all the following clinical settings except:
   (a) Progressive synergistic gangrene
   (b) Acute thrombophlebitis
   (c) Acute haemolytic streptococcal cellulitis
   (d) Acute rhabdomyolysis

3. Which one of the following bacteria is classified as facultative anaerobe?
   (a) Pseudomonas
   (b) Bacteroides
   (c) Escherichia
   (d) Clostridium

4. Which of the following statements is not correct regarding sebaceous cyst?
   (a) It has a punctum
   (b) Treatment is incision and drainage
   (c) Found on hairy areas of the body
   (d) Not found on palms and soles

5. Match List-I with List-II and select the correct answer using the code given below the lists:

	List-I (carcinoma)		**List-II (characteristic)**
A	Seminoma testis	1	Hormone dependent
B	Carcinoma prostrate	2	Does not spread by lymphatics
C	Basal cell carcinoma	3	Prognosis depends on thickness
D	Basal cell carcinoma	4	Highly radiosensitive

   Code:
   (a) A-1 B-3 C-2 D-4
   (b) A-1 B-4 C-2 D-3
   (c) A-4 B-1 C-2 D-3
   (d) A-3 B-1 C-2 D-4

6. Tumours of anterior mediastinum include the following except:
   (a) Thymoma
   (b) Lymphoma
   (c) Germ cell tumour
   (d) Schwannoma

7. In India, the commonest cause of unilateral lymphoedema of lower limb is:
   (a) Lymphoedema tarda
   (b) Carcinoma of penis
   (c) Filariasis
   (d) Tubercular lymphadenopathy

8. Nottingham prognostic Index is used for:
   (a) Cancer stomach
   (b) Cancer colon
   (c) Cancer lung
   (d) Cancer breast

9. A patient has recurrent abdominal pain and jaundice. The blood investigations reveal reticulocytosis and hyperbilirubinemia. What is the clinical diagnosis?
   (a) Hereditary spherocytosis
   (b) Mirizzi's syndrome
   (c) Choledochal cyst
   (d) Sclerosing cholangitis

10. In gallstone ileus, obstruction most frequently occurs at:
   (a) Duodenum
   (b) Jejunum
   (c) Proximal ileum

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(d) Terminal ileum

11. The following conditions are associated with high incidence of pigment gallstones except:
(a) Cirrhosis
(b) Ileal disease
(c) Thalassemia
(d) Prosthetic heart valve

12. The most common route of spread in a case of pyogenic liver abscess is:
(a) Haematogenous through portal vein
(b) Ascending infection through biliary duct
(c) Hepatic artery
(d) Local spread

13. The most common complication of pancreas divisum is:
(a) Obstructive jaundice
(b) Duodenal obstruction
(c) Recurrent acute pancreatitis
(d) Peptic ulcer

14. The commonest major surgical complication following whipple procedure is:
(a) Disruption of pancreatic anastomosis
(b) Biliary peritonitis
(c) Disruption of gastric anastomosis
(d) GI bleeding

15. A 60 year old male presents with bleeding p/r. Proctoscopy reveals 2nd degree haemorrhoids. The treatment of choice is:
(a) Cryotherapy
(b) Sclerotherapy
(c) Banding
(d) Surgery

16. At present, treatment is recommended for H. pylori in association with the following except:
(a) Duodenal ulcer
(b) Early gastric cancer
(c) MALT-lymphoma
(d) Benign gastric ulcer

17. Pott's puffy tumour is a:
(a) Tuberculosis of the skull bone
(b) Squamous cell cancer of scalp
(c) Subperiosteal abscess associated with osteomyelitis of frontal bone
(d) Fungating scrotal malignancy

18. With reference to frozen shoulder, consider the following statements:
1. It is associated with diabetes and heart disease.
2. It may follow minor trauma.
3. Its differential diagnosis are infection and fractures.
4. Treatment of choice is surgery.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 2, 3 and 4
(d) 3 and 4 only

19. The prognosis in reduced or unreduced fractures involving epiphyseal plate is very poor if the fracture line:
(a) Runs along the epiphyseal plate
(b) Extends into epiphysis
(c) Crushes the epiphyseal plate
(d) Crosses the epiphyseal plate

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20. A 30 year old man met with an accident and presented with multiple fractures of ribs and paradoxical movement with severe respiratory distress. X-ray shows pulmonary contusion on right side without pneumothorax or haemothorax. Which one of the following is the initial choice of treatment?
(a) Immediate internal fixation
(b) Endotracheal intubation and mechanical ventilation
(c) Thoracic epidural analgesia and O_2 therapy
(d) Stabilization with towel clips

21. Which of the following is not a clinical feature of tetanus?
(a) Risus sardonicus
(b) Opisthotonus
(c) Loss of consciousness
(d) Respiratory failure

22. Hyperchloremic acidosis is a common complication of:
(a) Ureterosigmoidostomy
(b) Diarrhoea
(c) Vomiting
(d) Ileostomy

23. Endoluminal probe for transrectal ultrasonography operates at the frequency of:
(a) 2.5 MHz
(b) 5.0 MHz
(c) 7.5 MHz
(d) 15.0 MHz

24. A Seldinger needle is used for:
(a) Liver biopsy
(b) Breast biopsy
(c) Lymphangiography
(d) Arteriography

25. The ideal temperature to store the whole blood in blood-bank is:
(a) –4°C
(b) 0°C
(c) 4°C
(d) 8°C

26. Bisgaard treatment refers to that of:
(a) Ruptured tendo achillis
(b) Venous ulcer
(c) An ischaemic ulcer
(d) An in-growing toe nail

27. Glasgow coma scale (GCS) score ranges between:
(a) 0 and 15
(b) 1 and 15
(c) 2 and 15
(d) 3 and 15

28. The most common cause of intestinal obstruction is:
(a) Obstructed hernia
(b) Inflammatory abdominal conditions
(c) Gastrointestinal malignancy
(d) Bands and adhesions

29. The most common site for nosocomial (hospital acquired) infection is:
(a) Respiratory tract
(b) Urinary tract
(c) Surgical site
(d) Blood stream

30. A patient has carcinoid tumour of appendix of size more than 2.5 cm. The management of choice is:
(a) Appendicectomy
(b) Appendicectomy and 24 hour urinary HIAA
(c) Appendicectomy and abdominal CT scan
(d) Right hemicolectomy

31. What is the most common cause of intestinal obstruction in neonates?
(a) Meconium ileus
(b) Duodenal atresia
(c) Volvulus neonatorum
(d) Hirschsprung's disease

32. Match List-I with List-II and select the correct answer using the code given below the lists:

	List-I (drug)		**List-II (complications)**
A	Cisplatinum	1	Haemorrhagic cystitis
B	Adriamycin	2	Pulmonary fibrosis
C	Bleomycin	3	Cardiomyopathy
D	Cyclophosphamide	4	Tubular necrosis

Code:
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-1 C-2 D-4

33. Consider the following statements:
Haemophilia A (haemophilia) and Haemophilia B (christmas disease)
1. are variants of the same disease process

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2. are due to congenital deficiency of factor VIII and factor IX respectively
3. both are sex linked characteristics and transmitted by asymptomatic females
4. can occur both in males and females

Select the correct answer using the code given below:
(a) 2 and 3
(b) 1, 2 and 4
(c) 2 only
(d) 3 only

34. A 30 year old lady sustained chest injury in an accident and presented with massive haemothorax on right side. Tube thoracostomy drained 1800 ml of blood. What is the most appropriate treatment?
(a) Correction of hypovolemic shock
(b) Put one more chest tube
(c) Clamp the chest tube to cause the tamponade
(d) Resuscitation and prepare for urgent thoracotomy

35. In a case of obstructed hernia, strangulation is suggested by which of the following?
1. Presence of shock
2. Pain is never completely absent
3. Localised tenderness is associated with rebound tenderness
4. Pain persists despite conservative management
5. An external hernia becomes tense, tender, irreducible, with recent increase in size

Select the correct answer using the code given below:
(a) 1, 2, 3, 4 only
(b) 1, 2, 4, 5 only
(c) 1, 3, 5 only
(d) 1, 2, 3, 4, 5

36. Regarding haemorrhagic shock, which one of the following statements is correct?
(a) Clinically manifested when >10% of loss of total blood volume occurs
(b) Tachycardia presents in 100% of hypovolemic patients
(c) Loss of 40% of circulating volume is life threatening
(d) In acute stage of shock, systemic vasodilatation becomes evident

NODIA

37. Consider the following statements:
Poor prognostic indicators in advanced germ cell tumours show
1. primary sites in mediastinum
2. non-pulmonary metastasis
3. lactate dehydrogenase more than 10 times of normal value

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1 and 2 only

38. Which one of the following structures is not removed during a classical radical neck dissection?
(a) Trapezius
(b) Sternocleidomastoid
(c) Internal jugular vein
(d) Accessory nerve

39. Mousseau-Barbin Tube (M.B. Tube) is used for:
(a) Advance cancer stomach
(b) Advance cancer oesophagus
(c) Advance cancer oropharynx
(d) All of these

40. Which one of the following is the investigation of choice in a patient with haematemesis?
(a) Flexible upper gastrointestinal endoscopy
(b) Barium meal for stomach and duodenum
(c) Contrast enhanced CT scan
(d) Selective left gastric angiography

41. The two important values necessary for describing the variation in a series of observations are:
(a) Mean and standard deviation
(b) Mean and range
(c) Median and range
(d) Median and standard deviation

42. The time period between entry of infective agent in a host and maximal infectivity of that host is:
(a) Incubation period
(b) Serial interval
(c) Generation time
(d) Period of communicability

43. Consider the following statements:
Symposium is a method of health education characterised by
1. a series of speeches on a selected topic
2. presentation of different aspects of a topic by 3 or 4 experts
3. a discussion among the symposium members
4. the chairperson making a comprehensive summary at the end of the session

Which of these statements are correct?
(a) 2 and 3 only
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 1, 2 and 3

44. Match List-I with List-II and select the correct answer using the code given below the lists:

	List-I (Major Group of Insecticides)		**List-II (Name of Insecticide)**
A	Stomach poison	1	Temephos
B	Organo-chlorine compound	2	Propoxur
C	Organo-phosphorous compound	3	Sodium fluoride
D	Carbamates	4	Dieldrin

Code:
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-4 C-2 D-1

45. Consider the following diseases:
1. Rift valley fever
2. Yellow Fever
3. Chikungunya fever
4. West Nile fever

Which of the above diseases are transmitted by Aedes mosquito?
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

46. Consider the following statements:
Prophylactic disinfection includes
1. disinfection of urine specimen of patient with enteric fever
2. pasteurization of milk
3. disinfection of contaminated linen
4. disinfection of water by chlorine

Which of these statements are correct?
(a) 1, 2, 3 and 4
(b) 2 and 4 only
(c) 1, 2 and 4 only
(d) 1 and 3 only

47. Consider the following statements:
1. Registration of birth, even if the child is born in a hospital, is essentially the responsibility of parents only.
2. At present, the registration of birth has to be done not more than 15 days after the birth.

Which of these statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

48. Sullivan Index is the measure of which of the following?
(a) Disability rate
(b) Pregnancy rate
(c) Literacy rate
(d) Quality of life

49. Consider the following statements: The strategy to eradicate poliomyelitis in India comprised of
1. conducting national immunisation days
2. mopping up rounds with OPV
3. acute flaccid paralysis surveillance
4. public awareness through multimedia

Which of these statements are correct?
(a) 1 and 3 only
(b) 2 and 4 only
(c) 1, 2 and 3 only

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(d) 1, 2, 3 and 4

50. In the estimation of statistical probability, Z score is applicable to:
(a) Normal distribution
(b) Skewed distribution
(c) Binomial distribution
(d) Poisson distribution

51. Consider the following vectors:
1. Aedes mosquito
2. Flea
3. Ticks
4. Itch mite

Transovarian transmission is demonstrated in
(a) 1 and 2
(b) 2 and 4
(c) 1 and 3
(d) 3 and 4

52. The most sensitive indicator of the health status of a community is the:
(a) Crude death rate
(b) Maternal mortality rate
(c) Infant mortality rate
(d) Child mortality rate

53. Chemoprophylaxis is an example of:
(a) Specific protection
(b) Health promotion
(c) Early detection
(d) Rehabilitation

54. A rapid mass screening method that can be employed by a paramedical worker for detecting malnutrition in pre-school (age: 1 to 5 years) children is:
(a) Weight for age
(b) Height for age
(c) Mid-arm circumference
(d) Body Mass Index

55. The most important single determinant of infant mortality is:
(a) Birth weight
(b) Age of the mother
(c) Order of birth
(d) Interval between births

56. The immunoglobulins that can be transported across the placenta include:
(a) IgG only
(b) IgA only
(c) Both IgG and IgA
(d) Neither IgG nor IgA

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57. Consider the following statements:
1. The duration of immunity is longer when live vaccine is administered as compared to the administration of killed vaccine.
2. In the case of killed vaccine, single dose is sufficient whereas multiple doses are always required in the case of live vaccines.

Which of these statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

58. Match List-I with List-II and select the correct answer using the code given below the lists:

	List-I (Disease)		**List-II (Incubation Period)**
A	Measles	1	6 weeks to 6 months
B	Diphtheria	2	15 to 50 days
C	Hepatitis	3	10 to 14 days
D	Hepatitis	4	2 to 6 days

Code:
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-4 C-2 D-1

59. Throat swab positive and Schick test negative indicate that the person is:
(a) Suffering from diphtheria
(b) Susceptible to diphtheria
(c) Hypersensitive to diphtheria
(d) Immune to diphtheria

basis of the AEFI is paramount for proper investigation.

117. (c) Discard the vial in a red coloured bin

BCG, once reconstituted, must be used within a few hours (typically up to 4–6 hours in immunization guidelines). Leftover doses should not be saved for a later session. Because BCG is a live-attenuated vaccine, any partially used reconstituted vials are treated as infectious/ biomedical waste that require proper disposal—often in a red bin (destined for incineration or equivalent). The Vaccine Vial Monitor doesn't override the rule that reconstituted multi-dose vials must be discarded after the session.

118. (a) 1 only

A Vaccine Vial Monitor is a small label that gradually changes color in response to cumulative heat exposure. If the color reaches or exceeds a certain threshold, the vaccine is likely to have been damaged by heat and should be discarded. However, the VVM does not directly measure vaccine potency, as potency can be affected by multiple factors (e.g., freeze damage). Thus, statement 1 is true, while 2 is false.

119. (a) 1 only

In a case-control design, "matching" attempts to ensure cases and controls are similar for known potential confounders (e.g., age, sex), thereby removing or reducing those confounding effects. It does not address unknown confounders or automatically eliminate interviewer/ selection bias. Proper training and standardized procedures are required to minimize interviewer bias, while careful sampling can help reduce selection bias—but matching specifically tackles known confounders.

120. (d) Cervical cancer vaccine

The Universal Immunization Programme (UIP) in India has included several vaccines over the years, such as Pentavalent (DPT-HepB-Hib), Measles-Mumps-Rubella (MMR in many states), and Injectable Polio Vaccine (IPV). However, the HPV (cervical cancer) vaccine—while recommended by many experts to reduce cervical cancer incidence—has not been formally introduced into the national UIP schedule for all. Its public-sector availability is still limited or offered via certain state/ pilot projects, not nationwide.

END

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66. Consider the following statements about content/yield of 100 gm of some foodstuffs:
1. Fat content of Bengal gram is less than that of maize
2. Protein content of maize is more than that of rice
3. Calorie yield of fish and egg is same

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) 1 and 2
(d) 2 and 3

67. Consider the following statements:
1. Protein content of soyabean is more than that of meat (per 100 gm)
2. Fat content of fish is more than that of soyabean (per 100 gm)
3. Calorie yield for each 100 gm of fish is almost the same as for 100 gm of banana
4. Fat content of soyabean is more than that of eggs (per 100 gm)

Which of the above statements are correct?
(a) 1 and 2
(b) 1 and 4 only
(c) 2 and 3
(d) 1, 3 and 4

68. Consider the following features of food poisoning:
'Incubation period less than 24 hours, source of infection is milk products, and symptoms include diarrhoea and vomiting.'
To which of the following does the above description apply?
1. Staphylococcal food poisoning
2. Salmonella food poisoning
3. Botulism

Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 2
(c) 1 and 3
(d) 2 only

69. For adolescents, what is the weekly iron and folic acid supplementation dose?
(a) 60 mg elemental iron and 400 microgram folic acid
(b) 100 mg elemental iron and 500 microgram folic acid
(c) 120 mg elemental iron and 400 microgram folic acid
(d) 150 mg elemental iron and 500 microgram folic acid

70. Which of the following statements is/are true about proportional case rate of malaria?
1. This indicator is used since morbidity rate is difficult to determine
2. This is defined as the number of cases of malaria for every 100 patients seen in hospital OPDs
3. It is a crude index since cases are not related to their time and space distribution

Select the correct answer using the code given below:
(a) 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

71. Consider the following statements:
1. Type 2 poliovirus was eliminated in India in 2005.
2. Main cause of vaccine derived polioviruses (VDPV) is Type 2 component of OPV.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

72. Which of the following statements is true about hydatid disease?
(a) It is a zoonosis
(b) It is rare in sheep rearing countries
(c) It is a protozoal disease
(d) Man is the definitive host

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73. Which of the following statements is true about direct age standardization?
(a) Standardized mortality ratio is used
(b) A standard population is used
(c) Age specific death rates are not known
(d) Number of people in each age group is not known

74. Match List I with List II and select the correct answer using the codes given below the lists:

	List I (Disease)		List II (Example)
A	Nosocomial	1	Cytomegaloviral infection
B	Opportunistic	2	Hepatitis B viral infection
C	Iatrogenic	3	Aplastic anemia
D	Epornithic	4	Influenza

Code:
(a) A-1 B-3 C-2 D-4
(b) A-2 B-1 C-3 D-4
(c) A-4 B-3 C-2 D-1
(d) A-3 B-4 C-2 D-1

75. With reference to International Certificate of Vaccination for Yellow Fever, the validity of the certificate begins how many days after the vaccination?
(a) 5 days
(b) 10 days
(c) 14 days
(d) 20 days

76. With reference to dengue virus, consider the following statements:
1. In India, all the four serotypes are found.
2. The reservoir of infection is both man and mosquito.
3. Adults usually have a milder disease than children.
4. Dengue hemorrhagic fever is caused by infection with more than one dengue virus.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 1, 2 and 4
(c) 4 only
(d) 2, 3 and 4

77. What is the window period for HIV infection?
(a) 3 – 15 days
(b) 6 – 24 weeks
(c) 6 – 8 months
(d) None of these

78. Among the following foodstuffs, which one has the highest protein content per 100 gm?
(a) Black gram
(b) Egg
(c) Ragi
(d) Wheat

79. Smoking is associated with all of the following diseases except:
(a) Emphysema
(b) Cardiovascular disease
(c) Sarcoidosis
(d) Lung cancer

80. Consider the following:
1. Skin
2. Water
3. Faeces
4. Urine

Bleaching powder can be used for disinfection of which of the above?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 2 and 3 only
(d) 2, 3 and 4

81. A 35 year old nulliparous woman complains of menorrhagia and mass per abdomen. On examination, the positive findings are: she is anaemic, has a pelvic mass of 16–18 weeks size, firm in consistency which moves with the movement of cervix. What is the most likely clinical diagnosis?
(a) Leiomyoma
(b) Adenomyosis
(c) Endometrial carcinoma
(d) Ovarian tumour

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82. Abundant cornified cells in vaginal exfoliative cytology indicate:
(a) Early proliferative phase
(b) Late proliferative phase
(c) Early secretory phase
(d) Late secretory phase

83. Consider the following statements:
1. Carbon dioxide is the safest gas for creating pneumoperitoneum in operative laparoscopy.
2. Laparoscopic sterilization is not recommended during the period of immediate postpartum.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

84. Polyhydramnios at term is diagnosed when AFI is more than:
(a) 10 cm
(b) 15 cm
(c) 20 cm
(d) 25 cm

85. Which of the following is not a potentially teratogenic infection if contracted in pregnancy?
(a) Rubella
(b) Cytomegalovirus
(c) Influenza virus
(d) Chicken pox

86. Active management of 3rd stage of labour includes the following except:
(a) Injection oxytocin 10 IU intramuscularly
(b) Controlled cord traction
(c) Uterine massage
(d) Injection oxytocin 10 IU intravenously

87. Regarding hypertensive disorders of pregnancy, the following are true except:
(a) Significant proteinuria is more than/equal to 0.3 g/24 hr
(b) Eclampsia may present in the absence of hypertension
(c) A protein:creatinine ratio more than 30 mg/mmol is considered significant
(d) Urinary dipstick result of +1 is equivalent to urinary protein concentration of 300 mg/dl

88. Which of the following is not a characteristic of Mayer Rokitansky Kuster Hauser (MRKH) syndrome?
(a) Cardiac anomalies
(b) Mullerian duct aplasia
(c) Renal abnormalities
(d) Skeletal abnormalities

89. Which one of the following is not a contraindication for prescribing combined oral contraceptive pills?
(a) Thromboembolic disease
(b) Viral hepatitis
(c) Rheumatic heart disease
(d) Pelvic inflammatory disease

90. The following are used in the staging of carcinoma of the cervix except:
(a) Pelvic lymph node involvement
(b) Vaginal involvement
(c) Hydroureter
(d) Parametrial involvement

91. Presence of signet-ring cells in a cellular or myxomatous stroma is diagnostic of:
(a) Gynandroblastoma
(b) Hilus cell tumour
(c) Struma ovarii
(d) Krukenberg tumour

92. A 58 year old woman, post menopausal for last 8 years, comes with history of spotting per vaginum. What is the most likely cause?
(a) Endometrial hyperplasia
(b) Endometrial carcinoma
(c) Atrophic endometritis
(d) Estrogen replacement therapy

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93. A diabetic obese patient comes with history of post-menopausal bleeding. On examination, there is a supra pubic mass and per vaginum there is purulent discharge. The probable diagnosis is:
(a) Carcinoma cervix
(b) Carcinoma endometrium
(c) Uterine myoma
(d) Ovarian carcinoma

94. An adolescent girl with stage 1a dysgerminoma is managed by:
(a) Unilateral salpingo-oophorectomy alone
(b) Total abdominal hysterectomy with unilateral salpingo-oophorectomy
(c) Bilateral salpingo-oophorectomy alone
(d) Chemotherapy

95. Which of the following conditions is best treated by a posterior colpotomy?
(a) Pelvic abscess
(b) Pyometra
(c) Pyosalpinx
(d) Pelvic haematocele

96. Which of the following suture materials has the least tissue reaction?
(a) Cotton / Linen
(b) Stainless steel
(c) Chromic catgut
(d) Silk

97. Menopause is associated with the following except:
(a) Osteoporosis
(b) Ischemic heart disease
(c) Loss of libido
(d) Delusion

98. Which one of the following conditions simulates the menstrual pattern of pain?
(a) Intramural fibroid
(b) Adenomyosis
(c) Haematometra
(d) Granulosa cell tumour of ovary

99. Which of the undermentioned conditions does not cause postmenopausal vaginal bleeding?
(a) Benign cystic teratoma of ovary
(b) Senile vaginitis
(c) Carcinoma of cervix
(d) Prolapse of uterus with decubitus ulcer

100. Defective fusion of the Mullerian ducts may give rise to which of the following?
(a) Uterus bicornis unicollis
(b) Imperforate anus
(c) Imperforate hymen
(d) Absence of the ovaries

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101. For a woman who has had unprotected intercourse two days ago, which one of the following emergency contraceptive methods cannot be suggested?
(a) LNG IUD (LNg IUD)
(b) Ulipristal acetate
(c) Levonorgestrel 150 mg
(d) Yuzpe regimen

102. Deep transverse arrest of head in labour occurs in:
(a) Android pelvis
(b) Anthropoid pelvis
(c) Platypelloid pelvis
(d) Gynaecoid pelvis

103. Early deceleration of foetal heart rate in labour is due to:
(a) Congenital heart block
(b) Umbilical cord compression
(c) Foetal head compression
(d) Hyperpyrexia

104. McRoberts manoeuvre is used during labour for management of:
(a) Normal labour to assist extension of head
(b) Extended arms of breech during assisted breech delivery
(c) Shoulder dystocia
(d) Delivery of after coming head of breech

105. Which one of the following is not a suitable condition for outlet forceps application?
(a) Cervix fully dilated
(b) Membranes absent
(c) Vertex presentation
(d) Head is above ischial spine level

106. Polyhydramnios is not caused by which one of the following?
(a) Anencephaly
(b) Spina bifida
(c) Single kidney
(d) Oesophageal atresia

107. Which of the following is the type of antepartum haemorrhage where blood loss is foetal?
(a) Abruptio placenta
(b) Placenta previa
(c) Vasa previa
(d) Circumvallate placenta

108. Which one of the following conditions is not associated with oligohydramnios during pregnancy?
(a) Post term pregnancy
(b) Ruptured membrane
(c) Intra uterine growth restriction
(d) Oesophageal atresia

109. A 23 year old presents with recurrent abortions at 16 weeks gestation. She should be investigated for:
(a) TORCH infection
(b) Hepatitis B infection
(c) Incompetent cervix
(d) Balanced paternal translocation

110. Which of the following is the most common cause of abortion during first trimester?
(a) Cervical incompetence
(b) Progesterone deficiency
(c) Antiphospholipid antibody syndrome
(d) Chromosomal anomalies of foetus

111. Abnormally low alpha-fetoprotein in maternal serum indicates:
(a) Down's syndrome
(b) Anencephaly
(c) Encephalocele
(d) Meningocele

112. Umbilical cord blood stem cells are used to treat all the following diseases except :
(a) Parkinsonism
(b) Leukemia
(c) Diabetes
(d) Osteoporosis

113. A patient of ectopic pregnancy had beta-hCG less than 6000 IU/ml. Medical management was done by single dose methotrexate. Beta-hCG repeated after 48 hours was found 7000 IU/ml. What will you do further?
(a) Repeat the injection of methotrexate
(b) Operate the patient
(c) Follow up with Beta-hCG after one week
(d) Follow up with Beta-hCG after 72 hours

114. A 35 year old married woman with no risk factors for cervical cancer is having Pap smear showing 'atypical squamous cells of undermined significance (ASCUS)' for the first time. What is the further step in the management?
(a) Repeat Pap immediately
(b) Cryotherapy
(c) Large loop excision of the transformation zone
(d) To follow up with Pap test at 6 months

115. For a primary amenorrhoea individual having an XY karyotype, normal infantile female external and internal genitalia fibrous bands in place of gonad, lack of development of secondary sexual characters, what is the most probable diagnosis?
(a) Testicular feminization syndrome
(b) Mixed gonadal dysgenesis
(c) Swyer syndrome
(d) Defective antimullerian hormone

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leakage at the pancreatic join is considered the most common and serious complication. Biliary peritonitis, disruption of gastric anastomosis, and GI bleeding can occur, but pancreatic anastomotic failure is classically the leading concern.

15. (c) Banding

Second-degree hemorrhoids prolapse during defecation but spontaneously reduce afterward. Rubber band ligation (banding) is a very effective and minimally invasive outpatient procedure for these cases. The band causes localized ischemic necrosis of the hemorrhoid, leading to its eventual sloughing and fibrosis of the submucosal layer. Sclerotherapy and cryotherapy are less commonly chosen first-line measures for second-degree piles, while surgical hemorrhoidectomy tends to be reserved for more advanced (third- or fourth-degree) or refractory cases.

16. (b) Early gastric cancer

Current guidelines widely endorse Helicobacter pylori eradication in patients with peptic ulcer disease (both duodenal and benign gastric ulcers) and in those with MALT lymphoma (where treatment can induce lymphoma regression). Although some evidence suggests H. pylori eradication may help reduce recurrence after endoscopic resection of early gastric cancer, this is not as universally established or mandated as the other indications. Therefore, among the listed choices, "Early gastric cancer" is the exception in which H. pylori therapy is not consistently recommended.

17. (c) Subperiosteal abscess associated with osteomyelitis of frontal bone

Pott's puffy tumor is a classic entity involving the frontal bone, typically arising from sinusitis (often frontal sinus) that extends to produce osteomyelitis of the frontal bone and a subperiosteal abscess. This leads to a boggy, tender swelling of the forehead ("puffy"). It is not a tubercular lesion or a malignancy of the scalp or scrotum. Early diagnosis and aggressive treatment (antibiotics and surgical drainage) are crucial to prevent intracranial complications.

18. (b) 1, 2 and 3

Frozen shoulder (adhesive capsulitis) indeed has a higher incidence in diabetics and can follow minor shoulder trauma. Infection and fractures around the shoulder must be ruled out, so they form part of the differential diagnosis. However, surgery is not the standard first-line treatment. Nonoperative management—physiotherapy, stretching exercises, and sometimes intra-articular steroid injections—is usually the mainstay. Surgery is considered only when conservative measures fail. Hence, statements 1, 2, and 3 are correct while 4 is not.

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19. (c) Crushes the epiphyseal plate

Injuries to the growth plate (epiphyseal plate) are classified by how the fracture line traverses or damages the plate. A "crushing" injury (Salter–Harris type V) exerts severe compressive force on the physis, potentially stunting or distorting future bone growth. Fractures that merely extend through or across the plate (types III and IV) can still be serious, but crushing injuries are notorious for causing permanent growth arrest or significant deformities, making them the worst prognosis.

20. (b) Endotracheal intubation and mechanical ventilation

Flail chest presents with paradoxical movement of a fractured rib segment and can lead to profound respiratory compromise. In severe respiratory distress, controlling the airway and ensuring adequate ventilation become top priorities. Endotracheal intubation with mechanical ventilation helps stabilize the chest wall from within and improves gas exchange. While good pain control (e.g., epidural analgesia) and supplemental oxygen are critical in milder cases, severe distress usually mandates securing the airway and providing ventilatory support.

21. (c) Loss of consciousness

Tetanus is characterized by hyperactive muscle spasms and rigidity, leading to features like lockjaw (trismus), risus sardonicus (sustained facial muscle spasm), and opisthotonus (arched back). Patients often remain awake and fully conscious despite excruciating spasms, because

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1. (b) 48 hours

In a clean, closely-approximated (sutured) surgical wound, epithelial cells migrate across the incision from the wound edges. By about 48 hours, these cells typically bridge the gap, forming a continuous superficial layer. This epithelial "seal" not only helps defend against infection but also marks the earliest stage of true wound closure. Although some epithelialization can begin within 24 hours, complete epithelial cover is generally achieved at around 48 hours, assuming there is no infection or excessive tension on the wound.

2. (b) Acute thrombophlebitis

Progressive synergistic gangrene (a severe necrotizing infection), acute haemolytic streptococcal cellulitis, and acute rhabdomyolysis with muscle necrosis can require drastic surgical measures such as debridement or amputation if tissue viability is compromised or infection is rampant. Acute thrombophlebitis, on the other hand, involves an inflamed and/or thrombosed vein. It is managed primarily with anticoagulation, elevation, and supportive measures rather than radical debridement or amputation, making it the exception among the listed conditions.

3. (c) Escherichia

Facultative anaerobes are organisms that can grow in both aerobic and anaerobic conditions. Escherichia coli is a prime example, capable of thriving with or without oxygen. Bacteroides and Clostridium are classically strict (obligate) anaerobes that grow in the absence of oxygen, and Pseudomonas is predominantly an aerobic organism requiring oxygen for growth. Because Escherichia (especially E. coli) can survive in either environment, it is correctly classified as a facultative anaerobe among the choices provided.

4. (b) Treatment is incision and drainage

A sebaceous cyst (epidermoid cyst) often has a visible punctum and commonly arises in hair-bearing areas of skin. Such cysts do not appear on the palms or soles because these regions lack sebaceous glands. Definitive management is complete surgical excision of the cyst wall and contents rather than simple incision and drainage. Incision and drainage alone frequently leads to recurrence because the cyst lining remains. Therefore, statement (b) is incorrect about the proper treatment of sebaceous cysts.

5. (c) A-4 B-1 C-2 D-3

A seminoma of the testis is known to be highly radiosensitive (4). Prostate carcinoma typically depends on androgens, making it hormone-dependent (1). Basal cell carcinoma usually remains locally invasive and is notorious for not spreading via lymphatics (2). Malignant melanoma's prognosis is closely tied to the thickness of the lesion (Breslow thickness), so its outcome depends on how deep the tumor invades (3). This matching sequence gives the code 4-1-2-3.

6. (d) Schwannoma

The classic tumors of the anterior mediastinum are remembered by the "4 Ts"—Thymoma, Teratoma (and other germ cell tumors), Thyroid masses, and 'Terrible' lymphoma. Schwannomas, on the other hand, are neurogenic tumors typically found in the posterior mediastinum, arising from nerve sheaths near the vertebral column. Because schwannoma usually resides in the posterior compartment rather than the anterior, it is the correct "except" answer among the listed tumors.

7. (c) Filariasis

Filariasis (particularly due to Wuchereria bancrofti) is endemic in many parts of India and is the leading parasitic cause of lymphedema. The infection leads to lymphatic obstruction and progressive swelling of the affected limb. Lymphoedema tarda is a primary lymphatic

disorder that manifests later in life but is far less common. Carcinoma of the penis and tubercular lymphadenopathy can occasionally cause regional lymphatic disruption, yet filariasis remains the most frequent culprit for unilateral leg swelling in the Indian context.

8. (d) Cancer breast

The Nottingham Prognostic Index (NPI) is specifically designed for breast cancer prognosis. It uses three factors: tumor size, lymph node status, and histological grade. By combining these elements, the NPI stratifies breast cancer patients into different prognostic groups. This index helps guide treatment decisions and predict patient outcomes. Although various scoring systems exist for other cancers, the NPI is classically associated with breast cancer management and is not routinely applied to stomach, colon, or lung cancers.

9. (a) Hereditary spherocytosis

Recurrent abdominal pain and jaundice along with reticulocytosis and hyperbilirubinemia strongly suggest hemolysis as an underlying cause. Hereditary spherocytosis is characterized by defective RBC membranes that lead to hemolysis, elevated bilirubin, and compensatory reticulocytosis. Mirizzi's syndrome, choledochal cyst, and sclerosing cholangitis are structural or inflammatory hepatobiliary conditions that do not typically cause reticulocytosis. Consequently, hereditary spherocytosis is the most fitting diagnosis among the options.

10. (d) Terminal ileum

Gallstone ileus occurs when a large gallstone enters the intestinal lumen (usually through a cholecystoenteric fistula) and travels until it lodges at a narrower point, most commonly the ileocecal region. The terminal ileum has the smallest lumen diameter, making it the usual site of impaction. Although gallstones can sometimes lodge in other areas, the high incidence of obstruction at the terminal ileum makes it the most frequent location for gallstone-induced intestinal blockage.

11. (d) Prosthetic heart valve

Pigment gallstones (especially black stones) often arise in conditions with chronic hemolysis (e.g., thalassemia) or altered bilirubin metabolism. Cirrhosis can reduce hepatic excretion of bilirubin and predispose to pigment stone formation. Ileal disease (or resection) compromises bile salt reabsorption, promoting gallstone formation. A prosthetic heart valve, while potentially associated with hemolysis, typically does not produce the high and sustained levels of bilirubin turnover or bile alterations seen in those other disorders; hence it is the "except" option.

12. (a) Haematogenous through portal vein

Pyogenic liver abscesses frequently arise from infections in the abdomen (for example, from the appendix or colon), which then drain via the portal venous system to the liver. This portal route is the single most common pathway, allowing bacteria to seed the liver parenchyma and form abscesses. While ascending infection through the biliary duct or direct spread from adjacent structures can also happen, the portal venous route remains the predominant mechanism for pyogenic liver abscess formation.

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13. (c) Recurrent acute pancreatitis

Pancreas divisum is a congenital anomaly where the pancreatic ductal systems fail to fuse properly. The majority of pancreatic secretions drain through the smaller accessory duct (duct of Santorini) into the minor papilla, creating a relative outflow obstruction. This predisposes patients to recurrent episodes of acute pancreatitis. Obstructive jaundice, duodenal obstruction, or peptic ulcer disease are not the typical hallmark complications of pancreas divisum, making recurrent pancreatitis the most likely issue.

14. (a) Disruption of pancreatic anastomosis

The Whipple procedure (pancreaticoduodenectomy) involves anastomoses of the pancreas, bile duct, and stomach to the intestine. Among these, the pancreatic anastomosis is particularly prone to leakage because the pancreatic stump can be soft, friable, and secrete digestive enzymes that impair healing. Thus, anastomotic disruption or

116. A lady who is using oral contraceptive pills comes with a complaint of vaginal discharge and pruritus vulvae. On local examination, there is curdy white discharge from the vagina. What is the most likely clinical diagnosis?
(a) Trichomonal vaginitis
(b) Monilial vaginitis
(c) Gardnerella vaginalis
(d) Atrophic vaginitis

117. Antisperm antibodies are usually present in:
(a) Cervix
(b) Vagina
(c) Uterus
(d) Fallopian tube

118. For a woman who has been operated for chocolate cyst with normal menstrual cycle, any of the following may be prescribed except:
(a) Injection leuprolide
(b) Tranexamic acid
(c) Tablet dienogest
(d) Oral progestogens

119. For a 40 year old hypertensive woman, which one of the following is not recommended for contraception?
(a) NuvaRing
(b) Minipill
(c) IUCD
(d) LNG IUD (LNg IUD)

120. A 30 year old female has severe dysmenorrhoea and dyspareunia. On examination, uterus is 8 weeks size, uniformly enlarged and there is tenderness in posterior fornix. What is the most probable diagnosis?
(a) Fibroid uterus
(b) Dysfunctional uterine bleeding
(c) Adenomyosis
(d) Endometrial carcinoma

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the toxin affects inhibitory neurons rather than higher cortical functions. Respiratory failure can ensue if spasms compromise the respiratory muscles. Hence, loss of consciousness is not typical, and that makes (c) the "not" correct clinical feature for tetanus.

22. (a) Ureterosigmoidostomy

In a ureterosigmoidostomy, urine drains into the sigmoid colon, bringing a constant load of urinary solutes (particularly ammonium and chloride) into contact with the colonic mucosa. This can result in excessive chloride absorption and bicarbonate loss, culminating in hyperchloremic metabolic acidosis. While diarrhea and ileostomy may also cause electrolyte imbalances and acid–base disturbances, ureterosigmoidostomy is classically associated with this distinct risk of hyperchloremic acidosis due to the abnormal urinary diversion into the bowel.

23. (c) 7.5 MHz

Transrectal ultrasound (TRUS) probes generally use mid-range frequencies, most commonly around 7.0–7.5 MHz, which provide sufficient resolution to visualize the prostate and nearby structures while still allowing an acceptable depth of penetration. Lower frequencies (such as 2.5–5 MHz) penetrate more deeply but yield lower resolution, and very high frequencies (like 15 MHz) would not penetrate deeply enough to be routinely used transrectally. Hence, 7.5 MHz is recognized as the standard operating frequency for endoluminal transrectal probes.

24. (d) Arteriography

The Seldinger technique is a classic method for obtaining vascular access. It involves using a special needle (Seldinger needle) to enter a blood vessel, through which a guide wire is then passed. This technique is the foundation of many catheterization procedures, most famously for arteriography (angiography), where contrast catheters are introduced into arterial circulation. While modifications of the method can be used in some other diagnostic or interventional settings, the canonical and most widely known usage is arteriography.

25. (c) 4°C

Whole blood and red blood cell units are conventionally stored at 2–6°C, with 4°C recognized as the standard midpoint temperature. This range slows down bacterial growth and preserves red cell viability. Temperatures below freezing (e.g., –4°C) would damage cells if not specially treated (as in frozen plasma or cryopreserved RBCs), and storing blood at higher temperatures (like 8°C) would increase the risk of bacterial proliferation. Thus, maintaining whole blood at approximately 4°C is the ideal compromise for safe storage.

26. (d) An in-growing toe nail

Bisgaard's treatment (or procedure) is one of the recognized surgical approaches to managing an in-growing toenail. It involves the removal of part of the nail plate along with targeted removal or ablation of the underlying nail matrix to prevent recurrence. Ruptured tendo achillis, venous ulcers, and ischemic ulcers have different pathophysiology and treatments. By specifically addressing the offending portion of the nail and ensuring proper wound care, Bisgaard's approach reliably alleviates pain and prevents re-infection in problem toenails.

27. (d) 3 and 15

The Glasgow Coma Scale, used to assess consciousness level in trauma or critical care, evaluates three components: Eye opening (E), Verbal response (V), and Motor response (M). The minimum possible total score is 3 (E1 + V1 + M1), indicating no eye opening, no verbal output, and no motor response. The maximum is 15 (E4 + V5 + M6), reflecting fully normal responsiveness. No patient can have a GCS below 3, hence the recognized range is 3 to 15.

28. (d) Bands and adhesions

Postsurgical adhesions (scar tissue) and fibrous bands from peritoneal inflammation are the single most frequent cause of small bowel obstruction in adults. They form after intra-abdominal surgeries or infections, creating points where the bowel can kink or constrict. While hernias, malignancy, and inflammatory disorders (like Crohn's disease) can also lead to

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71. (b) 2 only

India's last indigenous wild poliovirus type 2 case dates back to 1999, well before 2005. Although type 2 WPV has long been gone from circulation, 2005 is not the specific official "elimination" date. Meanwhile, vaccine-derived polioviruses commonly arise from the attenuated type 2 component in the oral polio vaccine (OPV), which can, on rare occasions, revert to a neurovirulent form. Hence (2) is correct, whereas statement (1) is not stated accurately with respect to the official year.

72. (a) It is a zoonosis

Hydatid disease (Echinococcus granulosus infection) is a cestode (tapeworm) parasitic infection involving animals (often sheep) as intermediate hosts and dogs as definitive hosts. Humans become "accidental" intermediate hosts by ingesting eggs from infected dog feces, making it a classic zoonosis. It is relatively more common, not rare, in sheep-rearing regions. Additionally, it is not protozoal; it is a helminthic infection. Man is not the definitive host (dogs are).

73. (b) A standard population is used

Direct age standardization requires applying the observed population's age-specific death rates to a standard population distribution, calculating an overall "adjusted" rate that accounts for differences in age structure. By contrast, the "standardized mortality ratio" (SMR) is typically employed in indirect standardization. For direct standardization, you do need age-specific rates (which must be known) and the number in each age stratum of the reference (standard) population. Hence the only correct statement is (b).

74. (a) A–2, B–1, C–3, D–4

1. A (Nosocomial): Hepatitis B can be acquired in a hospital setting (e.g., via contaminated needles)
2. B (Opportunistic): Cytomegalovirus is classically an opportunistic infection in immunocompromised hosts
3. C (Iatrogenic): Aplastic anemia can result from certain drugs or medical interventions
4. D (Epornithic): Influenza (notably avian flu) is linked to large outbreaks in bird populations ("epornithic")

Hence the code is 2 (HBV) – 1 (CMV) – 3 (Aplastic anemia) – 4 (Influenza).

75. (b) 10 days

According to World Health Organization guidelines, the yellow fever vaccination certificate becomes valid 10 days after administration of the vaccine. This interval allows the immune response to develop adequately. Most international travel regulations will therefore recognize the yellow fever certificate only after 10 days have elapsed from vaccination.

76. (b) 1, 2 and 4

All four serotypes of dengue virus circulate in India (1). While "reservoir" can be debated, many references include the mosquito in the overall cycle, given that Aedes can harbor the virus long-term (2). Dengue hemorrhagic fever often arises when a person infected previously with one serotype is later infected by another (4). The only dubious point is that adults do not reliably have a milder disease than children, so (3) is generally incorrect.

77. (b) 6 – 24 weeks

The "window period" for HIV refers to the time from initial infection until tests (especially older antibody-based assays) can reliably detect seroconversion. In classic teaching, this can extend up to 6 months (24 weeks), though modern tests (fourth-generation antigen/antibody) may shorten that interval. Nonetheless, 6–24 weeks remains the traditionally cited range for the serologic window period before antibodies become unequivocally detectable.

78. (a) Black gram

Per 100 g, black gram (urad dal) contains around 24 g of protein, higher than egg (13 g), wheat (11–12 g), or ragi/finger millet (7 g). Thus, among these choices, black gram has the highest protein content.

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Strangulation of an obstructed hernia entails compromised blood supply, risking bowel necrosis. Signs include systemic manifestations (shock), unrelenting pain, tenderness with rebound (suggesting peritoneal irritation), and persistence of symptoms despite any conservative attempts. The hernia swelling typically becomes tense, irreducible, and exquisitely tender, often with a noticeable enlargement that accompanies strangulation. Pain rarely disappears entirely in such an acute scenario. Since all five statements reflect these classic warning signs, each one is correct.

36. (c) Loss of 40% of circulating volume is life threatening

Hemorrhagic (hypovolemic) shock is commonly classified by the estimated percentage of blood volume lost. Loss of 15% or less often produces minimal clinical signs; after 30%–40%, shock becomes severe and can be life-threatening. Above 40%, there is a high risk of irreversible circulatory collapse without prompt intervention. Tachycardia is very common but may not be absolutely present in all patients, and significant vasodilation occurs later in the shock cascade (if at all), so option (c) is the best correct statement.

37. (a) 1, 2 and 3

Certain germ cell tumor presentations are associated with significantly worse outcomes. A mediastinal primary, rather than a testicular origin, has historically carried a poorer prognosis. Non-pulmonary visceral metastases (e.g., liver, bone, or brain) also predict poorer survival compared with isolated lung metastases. Additionally, very high lactate dehydrogenase (LDH) levels, often more than 10 times the upper limit of normal, correlate with high tumor burden or aggressive disease. Thus, statements 1, 2, and 3 all correctly indicate adverse prognostic features.

38. (a) Trapezius

A standard (classical) radical neck dissection removes the sternocleidomastoid muscle, the internal jugular vein, and the spinal accessory nerve (cranial nerve XI), among other cervical lymphatic tissues. Because the trapezius muscle is primarily innervated by the accessory nerve, it may lose function postoperatively but is not itself surgically excised. The removal of these key structures aims to achieve complete oncologic clearance of lymph nodes in head and neck malignancies, although more conservative "functional" neck dissections may spare certain structures.

39. (b) Advance cancer oesophagus

The Mousseau-Barbin (M.B.) tube is a specialized palliative stent or tube placed to bypass malignant strictures in the esophagus, particularly for inoperable or advanced esophageal cancer. It can sometimes be employed for lesions extending into the gastroesophageal junction but is not commonly used for purely oropharyngeal cancers. The primary intent is to restore the patient's ability to swallow and maintain nutritional intake. Hence, among the listed options, advanced esophageal cancer is the main indication for M.B. tube usage.

40. (a) Flexible upper gastrointestinal endoscopy

In acute upper GI bleeding (manifesting as hematemesis), the first-line investigation is urgent upper GI endoscopy (esophagogastroduodenoscopy, EGD). It allows direct visualization of the esophagus, stomach, and duodenum, localizing the source of bleeding (e.g., peptic ulcer, varix) and often permitting therapeutic interventions (e.g., injection, banding, or clipping). While a barium study was historically used, it lacks the diagnostic and therapeutic utility of endoscopy. Angiography or CT scan can be adjunctive but are not the primary initial test.

41. (a) Mean and standard deviation

When summarizing numeric data, the mean (arithmetic average) gives a measure of central tendency, while the standard deviation (SD) quantifies how much the data points scatter around that mean. This combination—Mean ± SD—is the cornerstone of many statistical reports, especially for normally distributed data. Although the range (lowest to highest) and the median also provide useful information, they are less comprehensive indicators of variability

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compared to the standard deviation, which incorporates all data points in its calculation.

42. (c) Generation time

"Generation time" in epidemiology refers to the interval between the moment a host is infected and the point of greatest infectivity—when the host is most likely to transmit the pathogen to others. This concept differs from the "incubation period," which is the interval between infection and clinical onset of disease, and from the "period of communicability," which spans the entire duration the host can spread infection. The "serial interval" is the gap between symptom onset in a primary case and in a secondary case.

43. (c) 1, 2 and 4

A symposium typically features multiple experts delivering short, structured presentations on different aspects of the same topic, each taking turns. This ensures a comprehensive coverage from diverse viewpoints (statements 1 and 2). While there can be questions from the audience, a formal, detailed discussion among speakers (as in a panel discussion) is not the defining hallmark of a symposium—so item 3 is less characteristic. Usually, a chairperson concludes by summarizing the key points (statement 4). Thus, statements 1, 2, and 4 are correct.

44. (d) A-3 B-4 C-2 D-1

A "stomach poison" insecticide is represented by sodium fluoride, hence A → 3. Organochlorines include dieldrin, so B → 4. An organophosphorus compound here is temephos, so C → 1. Carbamates include propoxur, so D → 2. Thus the correct matching is (A=3, B=4, C=2, D=1). These chemical groups differ in structure and mode of action, but all serve as insecticidal agents; organochlorines often persist longer in the environment, while organophosphates and carbamates degrade more quickly.

45. (a) 1, 2 and 3

Aedes mosquitoes can transmit several viral infections. Rift Valley fever (1) can be carried by Aedes (and sometimes Culex). Yellow fever (2) is famously spread by Aedes aegypti (urban cycle). Chikungunya (3) is transmitted by Aedes aegypti and Aedes albopictus. By contrast, West Nile fever (4) is primarily associated with Culex mosquitoes. Therefore, the correct group of Aedes-transmitted diseases among the options given is Rift Valley fever, Yellow fever, and Chikungunya fever.

46. (b) 2 and 4 only

Prophylactic disinfection refers to routine, ongoing measures to prevent disease from sources that might not be known to be infected (e.g., pasteurizing milk, chlorinating water). Disinfection of a specific patient's urine specimen or of soiled linen from an infected patient is usually categorized as concurrent (or terminal) disinfection, aimed at preventing spread from a known case. Hence, pasteurization of milk (2) and chlorination of water (4) are genuine examples of prophylactic disinfection, whereas (1) and (3) are not.

47. (d) Neither 1 nor 2

Under the Registration of Births and Deaths Act, both parents and medical authorities share responsibility for ensuring a birth is registered. Thus it is not "essentially the responsibility of parents only." Furthermore, current regulations in India typically allow up to 21 days (rather than just 15) for registration without penalty or late fee. Hence, statement (1) is incomplete/incorrect and statement (2) likewise does not reflect the usual 21-day timeframe. Therefore, neither statement is correct.

48. (d) Quality of life

The Sullivan Index measures "disability-free life expectancy," essentially evaluating how many years an individual can expect to live without disability. It incorporates both mortality data and prevalence of disability. Although it targets disability specifically, it is regarded as an overall measure of quality or condition of life in a population. By estimating healthy life expectancy, the index extends beyond a mere disability rate and better reflects broader quality-of-life trends.

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49. (d) 1, 2, 3 and 4

India's polio eradication strategy included widespread National Immunization Days (giving oral polio vaccine to all children under five), targeted "mop-up" vaccination campaigns in areas where polio cases were detected, robust surveillance of all acute flaccid paralysis (AFP) to catch new cases, and extensive public awareness campaigns via multiple media to improve participation. Each of these four interventions was pivotal in achieving polio-free certification. Hence, all statements (1 to 4) are correct.

50. (a) Normal distribution

A Z score (also called a standard score) is defined as the number of standard deviations a data point is from the mean. This concept is premised on normal (Gaussian) distributions, where data symmetrically cluster around the mean. Z scores enable calculation of probabilities and comparison across different normal distributions. Although one can use approximate normal approximations for large binomial or Poisson samples, the direct concept of a Z score fundamentally applies to the normal distribution.

51. (d) 3 and 4

Transovarian (vertical) transmission occurs when pathogens pass from adult arthropods through their eggs to the next generation. Ticks (3) commonly transmit certain rickettsial and viral pathogens transovarially. Certain mite species (4), such as chiggers (larval mites) linked to scrub typhus, are also known for transovarial infection cycles. While Aedes mosquitoes and fleas may harbor pathogens, classic "transovarian" passage in the sense of sustaining infection across generations is best documented with ticks and mites among the listed vectors.

52. (c) Infant mortality rate

Infant mortality rate (IMR) is broadly recognized as a highly sensitive barometer of overall community health, reflecting maternal well-being, quality of obstetric care, neonatal services, nutrition, sanitation, and other health determinants. A high IMR often signals deficiencies in these systems. While maternal mortality rate (MMR), child mortality rate, and crude death rate are also important, historically the IMR is regarded as a central, sensitive indicator because it captures both perinatal and early infancy vulnerabilities that strongly correlate with broader public health conditions.

53. (a) Specific protection

Chemoprophylaxis—such as giving antimalarials before travel to an endemic area or isoniazid to household contacts of tuberculosis patients—aims to avert infection or disease in individuals at higher risk. It is classified under "specific protection," a level of preventive medicine that focuses on targeted measures (e.g., vaccines, prophylactic medications) to block a particular disease. Health promotion addresses broader lifestyle and environmental changes, early detection concerns screening, and rehabilitation focuses on restoring function after disease has caused impairment.

54. (c) Mid-arm circumference

For quick, large-scale assessment of nutritional status in young children, measurement of mid-upper arm circumference (MUAC) is practical and sensitive in the field. Unlike weight-for-age or height-for-age, MUAC requires only a simple tape and correlates well with muscle and fat stores in the arm. BMI is not commonly used for routine pediatric screening in field settings. Hence, mid-arm circumference is especially favored by paramedical workers for rapid detection of malnutrition risk in preschool children.

55. (a) Birth weight

Low birth weight (LBW) strongly correlates with neonatal morbidity and mortality. It reflects factors such as maternal health, nutrition, and overall prenatal care. LBW infants are more prone to infections, hypothermia, and other complications. Though maternal age, birth order, and spacing between births can influence outcomes, birth weight has consistently been identified as the single most critical predictor of an infant's chance of survival and well-being in the early stages of life.

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obstruction, statistically these factors rank below adhesions. The prevalence of prior abdominal surgeries in modern practice has made adhesive obstruction particularly common.

29. (b) Urinary tract

Urinary tract infections top the list of nosocomial infections, largely because of the widespread use of indwelling urinary catheters. Catheter-Associated Urinary Tract Infections (CAUTIs) occur when bacteria ascend along the catheter. While respiratory infections (particularly ventilator-associated pneumonia), surgical site infections, and bloodstream infections (e.g., central line–associated bloodstream infections) are also critical hospital-acquired infections, the urinary tract remains the single most common site overall—making prevention of catheter-related infections a major quality-control goal in healthcare settings.

30. (d) Right hemicolectomy

For appendiceal carcinoids less than 1 cm, simple appendectomy is usually sufficient. Tumors between 1–2 cm can be more controversial, often prompting additional evaluation. However, once the carcinoid tumor exceeds 2 cm, the risk of spread and metastatic potential markedly increases. In such cases, a more extensive surgical resection (right hemicolectomy) is recommended to achieve appropriate oncological clearance, address possible nodal involvement, and reduce recurrence. This is why right hemicolectomy is the preferred option for lesions larger than 2 cm.

31. (d) Hirschsprung's disease

Hirschsprung's disease (congenital aganglionic megacolon) is often cited as the most frequent cause of lower intestinal obstruction in neonates. The absence of ganglion cells in the distal colon impairs normal peristalsis, causing a functional obstruction. Though meconium ileus (commonly linked with cystic fibrosis) and duodenal atresia also lead to neonatal intestinal blockage, Hirschsprung's disease typically surpasses them in incidence overall. Clinically, it presents with delayed passage of meconium, abdominal distension, and features of obstruction within the first few days of life.

32. (c) A-4 B-3 C-2 D-1

Cisplatin is well known for nephrotoxicity (tubular necrosis). Adriamycin (doxorubicin) can cause dose-dependent cardiomyopathy. Bleomycin is linked with pulmonary fibrosis, especially above certain cumulative doses. Cyclophosphamide, metabolized to acrolein, often causes hemorrhagic cystitis, preventable by adequate hydration and coadministration of mesna. Matching them yields: A (Cisplatin) → 4 (Tubular necrosis), B (Adriamycin) → 3 (Cardiomyopathy), C (Bleomycin) → 2 (Pulmonary fibrosis), D (Cyclophosphamide) → 1 (Haemorrhagic cystitis).

33. (a) 2 and 3

Hemophilia A (Factor VIII deficiency) and Hemophilia B (Factor IX deficiency) produce a similar clinical picture of a coagulation defect, though they are caused by different missing clotting factors. Both are X-linked recessive conditions, typically manifesting in males but transmitted by carrier females (who are usually asymptomatic). Statement (1), calling them "variants of the same disease process," can be debated, since they are distinct deficiencies. Statement (4) is generally incorrect, because classical hemophilia in females is exceedingly rare.

34. (d) Resuscitation and prepare for urgent thoracotomy

Immediate drainage of more than 1500 mL of blood from a chest tube (or continued high-volume output) constitutes a massive hemothorax. Under such circumstances, merely adding another drain or clamping the tube is inadequate. The priority is to resuscitate the patient (correct hypovolemia, stabilize vitals) and proceed with urgent surgical intervention (thoracotomy or video-assisted procedure) to identify and control the bleeding source. This approach prevents exsanguination and optimizes chances of survival when major vascular or lung vessel injury is suspected.

35. (d) 1, 2, 3, 4, 5

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In practice, many guidelines further classify "elimination" in districts showing far lower rates (often <0.1 per 1,000). Such districts also generally have high TT coverage (≥80–90%) and a large proportion of skilled/attended deliveries (≥75%). Hence option (d)—with <0.1/1000 births, TT coverage >90%, and attended deliveries >75%—best reflects the elimination-level parameters.

64. (d) 1, 2 and 3

Annual influenza vaccination is routinely advised for high-risk individuals: the elderly (often 65+ years), those with chronic medical conditions (e.g. cardiac or respiratory illness), and immunocompromised persons—including HIV-infected patients. While some regions do recommend broader coverage, targeting the entire "general population" is often not mandated everywhere due to cost-effectiveness considerations. Therefore, (d) captures the three groups most consistently advised to receive influenza immunization.

65. (c) Both 1 and 2

Mumps classically affects older children and adolescents, whereas measles and chicken pox often occur in younger children. Hence, its average age of onset can be somewhat higher compared to these other childhood exanthems. In addition, mumps in adults frequently presents more severely—sometimes leading to complications such as orchitis, meningitis, or pancreatitis—whereas pediatric cases are often milder. Thus, both statements are accurate.

66. (b) 2 only

Maize (corn) does generally contain more protein than rice (about 9–10% vs. 6–7%), making statement 2 correct. Bengal gram (chana) actually has a slightly higher fat percentage than maize, so statement 1 is incorrect as phrased. Meanwhile, the calorie yield of fish vs. egg varies, and it is not typically "the same." Eggs average 155–160 kcal/100 g; fish can range from 100 kcal (lean fish) to 200+ kcal (fatty fish), so statement 3 is not reliably true.

67. (b) 1 and 4 only

Soybeans typically contain about 40% protein, exceeding meat's 20% protein on a per-weight basis, so (1) is correct. They also have 18–20% fat, which is higher than the fat content of eggs (10–11%), making (4) correct. However, fish does not universally exceed soyabean in fat content (2 is incorrect), and the calorie yield of fish can vary widely (often around 100–200 kcal/100 g), while banana is 90 kcal/100 g—"almost the same" is not a consistent standard (3 is not reliably true).

68. (a) 1 only

Staphylococcal food poisoning typically has a short incubation (1–6 hours) and often involves foods such as milk or dairy products where staphylococcal enterotoxins may form. Patients present quickly with prominent vomiting and sometimes diarrhea. Salmonella poisoning usually has a longer incubation period (12–48 hours) and is more strongly associated with poultry, eggs, etc. Botulism primarily affects the nervous system (descending paralysis), not primarily vomiting/diarrhea, and can have a longer onset.

69. (b) 100 mg elemental iron and 500 microgram folic acid

Under India's Weekly Iron and Folic Acid Supplementation (WIFS) program, adolescents (both in-school and out-of-school, aged roughly 10–19 years) receive one tablet per week containing 100 mg of elemental iron and 500 μg (0.5 mg) of folic acid. This regimen helps prevent anemia in this vulnerable age group. The other listed doses are either lower or higher than standard program guidelines.

70. (d) 1, 2 and 3

Proportional case rate of malaria tracks the percentage of OPD visits that turn out to be malaria cases, often calculated as (number of malaria cases ÷ total OPD visits) × 100. This metric is used because exact population-based morbidity data can be harder to obtain (1). By definition, it represents the proportion among OPD patients, not the entire community, making it a fairly crude measure (3). The formula stated in (2) is correct for computing this index.

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56. (a) IgG only

Of the major immunoglobulin classes, only IgG is normally transferred from mother to fetus via the placenta, bestowing passive immunity during the neonatal period. IgA, which can appear in breast milk, is not transported transplacentally. Consequently, newborns acquire IgG antibodies to pathogens to which the mother is immune, helping protect them in the first few months of life. Neither IgM nor IgE crosses the placenta in significant amounts; IgG remains the key immunoglobulin for fetal immune defense.

57. (a) 1 only

Live vaccines (e.g., measles, oral polio) generally elicit a more robust, long-lasting immune response than killed vaccines. Hence statement 1 is correct. However, killed or inactivated vaccines typically require multiple doses or boosters (e.g., inactivated polio or hepatitis A vaccines) to achieve and maintain adequate immunity, while a single dose of a live vaccine often confers sustained immunity. Statement 2 is therefore the opposite of the usual practice, making it incorrect.

58. (d) A-3 B-4 C-2 D-1

Measles typically has an incubation of about 10–14 days (A→3). Diphtheria often presents 2–6 days after infection (B→4). Hepatitis A manifests in roughly 15–50 days (C→2). Hepatitis B ranges widely, from around 6 weeks to 6 months (D→1). Hence the sequence A=3, B=4, C=2, D=1 fits option (d).

59. (d) Immune to diphtheria

A positive throat swab means Corynebacterium diphtheriae is present, but a negative Schick test suggests the person possesses adequate circulating antitoxin (i.e., immunity). Individuals who carry the organism in their throat yet have protective antibody levels are essentially asymptomatic carriers. Thus, they are not clinically suffering from diphtheria, nor are they susceptible. Instead, they are immune but may still harbor and shed the bacteria.

60. (a) Psychoneurosis

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Psychoses are major mental disorders characterized by a loss of contact with reality, evident in conditions like schizophrenia, mania, and delusional (paranoid) disorders. Psychoneurosis (often called neurosis) involves less severe psychiatric disturbances—such as anxiety disorders or phobias—where insight and reality testing are largely preserved. Thus, schizophrenia, manic-depressive (bipolar) psychosis, and paranoia are classical psychotic disorders, whereas psychoneurosis is non-psychotic by definition.

61. (c) 3 and 4 only

Effectiveness relates to achieving the intended outcome (e.g. reducing mortality), whereas efficiency addresses resource utilization (e.g. cost per patient). Hence, "Cost per patient treated" (3) is a measure of efficiency, and "Reduction in mortality" (4) gauges effectiveness in meeting health objectives. By contrast, "Percentage of bed occupancy" (1) is generally an efficiency indicator (not effectiveness), and "Immunization coverage rate" (2) reflects how completely a target population has been immunized (i.e. effectiveness, not efficiency). Thus, only statements 3 and 4 are correctly matched.

62. (b) 2 only

RNTCP (now replaced by the newer National TB Elimination Programme, NTEP) traditionally employs passive case finding—patients self-present when symptomatic—and then are tested and treated. Therefore, statement 1 is incorrect. However, the establishment of sputum microscopy centers (Designated Microscopy Centres) at a ratio of roughly one per 100,000 population (and one per 50,000 in difficult hilly/tribal areas) is a well-known part of the program, making statement 2 correct.

63. (d) Incidence rate less than 0.1/1000 births, two doses of TT vaccine coverage more than 90%, attended deliveries more than 75%

Under WHO criteria, neonatal tetanus elimination means reducing incidence to below 1 case per 1,000 live births in every district.

79. (c) Sarcoidosis

Smoking is a major risk factor for emphysema (COPD sub-type), lung cancer, and cardiovascular disease. Sarcoidosis, however, is not classically linked to smoking—indeed, some studies suggest a lower incidence among smokers compared to nonsmokers. Hence, among the listed conditions, sarcoidosis is the one not strongly associated with smoking.

80. (d) 2, 3 and 4

Bleaching powder (calcium hypochlorite) is a strong disinfectant suitable for non-living materials—commonly used for disinfecting water supplies, as well as excreta such as feces and urine. It is not recommended on living tissues like skin because it is too caustic and would cause injury. Hence, it is used for (2) Water, (3) Faeces, and (4) Urine, but not for skin.

81. (a) Leiomyoma

A large, firm, mobile pelvic mass that moves with the cervix—and is associated with menorrhagia and anemia—strongly suggests a fibroid uterus (leiomyoma). Adenomyosis causes a "bulky" uterus but often not as large as 16–18 weeks' size. Ovarian tumors typically move independently of the cervix, and endometrial carcinoma presents more often with abnormal uterine bleeding rather than a big, firm, cervix-attached mass.

82. (b) Late proliferative phase

Under the influence of rising estrogen approaching ovulation, the vaginal cytology shows a predominance of superficial (cornified) cells. This corresponds to the late proliferative phase (just before ovulation) when estrogen is at a peak. In the secretory (post-ovulatory) phase, progesterone influence leads to more intermediate cells rather than abundant cornified cells.

83. (a) 1 only

CO_2 is the preferred and safest gas for pneumoperitoneum because it is nonflammable and easily absorbed, reducing the risk of gas embolism. The second statement is incorrect because postpartum laparoscopic sterilization (within the first week or so) can indeed be done if resources are available and the patient consents—many guidelines allow postpartum sterilization (though commonly done by minilaparotomy). Thus only statement 1 is correct.

84. (d) 25 cm

Amniotic Fluid Index (AFI) 25 cm at term is the usual cutoff for diagnosing polyhydramnios (excess amniotic fluid). Mild polyhydramnios may begin >24–25 cm, with moderate and severe levels classified by higher AFI measurements. A normal AFI generally ranges from around 8–18 cm.

85. (c) Influenza virus

Rubella, cytomegalovirus, and varicella (chickenpox) are well-recognized TORCH infections with documented teratogenic risks leading to congenital anomalies. By contrast, while influenza can be dangerous to a pregnant mother and can cause severe illness, it is not classically described as "teratogenic," i.e. causing a specific congenital malformation syndrome.

86. (d) Injection oxytocin 10 IU IV

The recommended active management of the third stage (per WHO guidelines) typically involves (1) giving 10 IU oxytocin intramuscularly immediately after birth of the baby, (2) controlled cord traction to deliver the placenta, and (3) uterine massage after the placenta is out if the uterus is not well-contracted. While IV oxytocin can be used if indicated, the standard protocol specifically calls for 10 IU intramuscular as the prophylactic uterotonic. Hence, (d) is not the usual "textbook" step.

87. (d) Urinary dipstick result of +1 is equivalent to urinary protein concentration of 300 mg/dl

Key definitions include:

1. Significant proteinuria $\geq$ 0.3 g/24 hours, or a protein:creatinine ratio 30 mg/mmol.
2. Eclampsia can sometimes manifest abruptly with seizures before high blood pressure is formally recorded.

However, a +1 dipstick usually corresponds to 30 mg/dL (not 300 mg/dL). A reading of 300 mg/dL

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protein is typically closer to +3 on most dipstick scales. Thus (d) is the incorrect statement.

88. (a) Cardiac anomalies

MRKH syndrome primarily involves congenital absence (aplasia) of the uterus and upper vagina (Müllerian ducts), often accompanied by renal anomalies (e.g. unilateral kidney) and sometimes skeletal anomalies (e.g. scoliosis). Although other system malformations can occur, characteristic cardiac defects are not typically part of the standard MRKH profile, making (a) the best "not" option.

89. (c) Rheumatic heart disease

Combined oral contraceptives (COCs) are generally contraindicated in women with thromboembolic disorders, active or severe liver disease (including certain stages of viral hepatitis), and other high-risk conditions. Pelvic inflammatory disease is also approached cautiously when considering an IUD, but it is not by itself a major barrier to combined pills. Rheumatic heart disease, if stable and well-managed, is not an absolute contraindication, making it the correct "not-contraindicated" choice among these options.

90. (a) Pelvic lymph node involvement

FIGO (International Federation of Gynecology and Obstetrics) staging for cervical cancer is based predominantly on clinical findings—evaluating tumor extension into the vagina, parametria, pelvic wall, or the presence of hydronephrosis. Pelvic lymph node metastases, however, are not included in the formal clinical staging system. Although nodal involvement greatly impacts prognosis and treatment, it does not change the official "stage" by FIGO criteria, so (a) is the correct "except."

91. (d) Krukenberg tumour

Krukenberg tumors are metastatic ovarian tumors (most often from a gastric primary) characterized by mucin-filled signet-ring cells set within a cellular or myxoid stroma. "Signet-ring" describes the appearance of the displaced nucleus by a large intracellular mucin vacuole. Gynandroblastomas, hilus-cell tumors, and struma ovarii have different histological hallmarks and do not typically present with abundant signet-ring cells.

92. (b) Endometrial carcinoma

Postmenopausal bleeding is endometrial carcinoma until proven otherwise. While atrophic endometritis can cause mild bleeding, the prime concern in a 58-year-old with new-onset bleeding after many years of menopause is a malignant change in the endometrium. Endometrial hyperplasia can also present with abnormal bleeding, but in a postmenopausal patient, the index of suspicion for carcinoma is highest.

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93. (b) Carcinoma endometrium

Obesity and diabetes are well-known risk factors for endometrial cancer, which typically presents with postmenopausal bleeding. A bulky uterus (felt as a suprapubic "mass") is often discovered. Although cervical cancer can yield foul discharge, the high-risk profile of obesity/diabetes plus postmenopausal bleeding more classically signals endometrial carcinoma.

94. (a) Unilateral salpingo-oophorectomy alone

For a young patient with early-stage (IA) dysgerminoma (confined to one ovary, capsule intact), fertility-preserving surgery is typically chosen—namely unilateral salpingo-oophorectomy. Dysgerminomas are very radiosensitive and chemosensitive, but in a completely resected stage IA tumor, additional therapy may not be necessary if high-risk features are absent. Removing both ovaries or the uterus would compromise fertility and is unnecessary at this limited stage.

95. (a) Pelvic abscess

A posterior colpotomy involves incising the posterior fornix of the vagina (near the pouch of Douglas), which is the lowest point in the female pelvis. This route provides effective drainage for collections in the pouch of Douglas. Among the listed conditions, a pelvic abscess in this region is the classic indication for posterior colpotomy, as it can be safely approached and drained through the posterior vaginal wall. Pyometra,

pyosalpinx, and pelvic hematocele typically require different approaches for drainage or treatment.

96. (b) Stainless steel

Stainless steel suture material is minimally reactive and considered one of the most inert suture types available. It provokes the least inflammatory response compared with organic or synthetic absorbable options. Silk, cotton/linen, and even chromic catgut (though treated to lessen reactivity) still incite more tissue reaction than stainless steel. Because steel is non-absorbable and biocompatible, it finds use in certain specialized surgeries (e.g. sternum closure) where minimal tissue reaction and high tensile strength are paramount.

97. (d) Delusion

After menopause, declining estrogen levels place women at increased risk for bone density loss (osteoporosis), a higher likelihood of cardiovascular disease (including ischemic heart disease), and often sexual changes such as reduced libido and vaginal atrophy. Delusions, however, are not typically a direct or recognized consequence of menopause. While mood swings or emotional changes can occur, delusional thinking points to psychiatric disorders rather than a hallmark symptom of menopause.

98. (b) Adenomyosis

Adenomyosis—a condition where endometrial glands and stroma grow within the uterine muscle—commonly presents with progressive dysmenorrhea and menorrhagia. Because the ectopic endometrium bleeds in tandem with the normal endometrium, patients often experience cyclic menstrual-type pain. In contrast, an intramural fibroid may cause pain or pressure but does not as closely mirror the cyclical pattern. Haematometra (accumulated blood) and granulosa cell tumors (often hyperestrogenic) do not typically replicate the exact monthly pain pattern seen with adenomyosis.

99. (a) Benign cystic teratoma of ovary

Postmenopausal vaginal bleeding can arise from various conditions affecting the genital tract, including atrophic (senile) vaginitis, cervical cancer, and even uterine prolapse with ulceration of the protruding cervix/vagina (decubitus ulcer). However, a benign cystic teratoma (dermoid cyst) of the ovary is largely asymptomatic regarding bleeding. It typically contains differentiated tissues like hair, teeth, or sebaceous material and seldom causes postmenopausal bleeding, making (a) the correct "does not cause" answer.

100. (a) Uterus bicornis unicollis

Müllerian duct anomalies include various malformations of the uterus and upper vagina. In uterus bicornis unicollis, incomplete fusion of the two Müllerian ducts results in a uterus with two "horns" sharing a single cervical canal. Imperforate anus and imperforate hymen are related to different embryologic origins, and ovarian development comes from the gonadal (not Müllerian) ridge. Therefore, defective Müllerian fusion classically causes structural uterine anomalies such as a bicornuate uterus.

101. (a) LNG IUD (LNg IUD)

Emergency contraception options within 72 (up to 120) hours typically include:

1. Levonorgestrel 1.5 mg (single or split dose)
2. Yuzpe regimen (high-dose combined pills)
3. Ulipristal acetate (effective up to 5 days)
4. Copper-bearing IUD insertion (also up to 5 days)

A Levonorgestrel-releasing intrauterine device (LNG IUD) is not conventionally recommended for postcoital emergency contraception. The copper IUD is used off-label as EC, but the LNG IUD is not validated or advised in this scenario. Therefore, (a) cannot be suggested.

102. (a) Android pelvis

Deep transverse arrest refers to the fetal head becoming arrested in the mid-pelvis with the sagittal suture in the transverse diameter, typically because the anterior-posterior diameter of an android pelvis is too narrow. In an android pelvis, the posterior segment is funnel-shaped, and the mid-pelvic transverse diameter can be relatively constricted. Gynaecoid, anthropoid, and platypelloid types each have different

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dimensions less likely to cause a persistent deep transverse arrest of the head.

103. (c) Foetal head compression

Early decelerations on the cardiotocograph are a mirror image of the uterine contraction, beginning and ending approximately with the contraction. They result primarily from fetal head compression, which stimulates the vagus nerve and leads to a transient drop in heart rate. Umbilical cord compression usually causes variable decelerations, whereas uteroplacental insufficiency leads to late decelerations. Congenital heart block or hyperpyrexia do not fit this characteristic pattern of uniform "early" decelerations that coincide with contractions.

104. (c) Shoulder dystocia

The McRoberts maneuver is a first-line approach to resolve shoulder dystocia, a critical obstetric emergency in which the anterior fetal shoulder becomes impacted behind the maternal pubic symphysis. By flexing the maternal thighs onto the abdomen, the angle of the pelvis changes, flattening the sacrum and often dislodging the impacted shoulder. This maneuver is quick, non-invasive, and has a high success rate when combined with suprapubic pressure. It is not specifically used for breech arms, normal extension, or delivering the aftercoming head.

105. (d) Head is above ischial spine level

Outlet forceps criteria include full cervical dilation, ruptured membranes, vertex at or on the perineum (station +2 or more), and precise fetal head position. If the head is above the ischial spines (meaning station is negative), forceps application is not advisable because the head has not descended sufficiently. Conditions (a), (b), and (c) are standard prerequisites for a safe, outlet-type forceps delivery, whereas a high-floating head is a contraindication.

106. (c) Single kidney

Polyhydramnios (excess amniotic fluid) typically occurs when fetal swallowing is impaired (e.g. esophageal atresia) or there is a neural tube defect (like anencephaly) limiting normal fluid regulation. Spina bifida can also lead to abnormal neural regulation of fluid. A single kidney, however, usually does not cause increased amniotic fluid volume; in fact, significant renal dysfunction or bilateral renal issues more commonly contribute to oligohydramnios. Therefore, single kidney is not a recognized cause of polyhydramnios.

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107. (c) Vasa previa

In vasa previa, fetal blood vessels (running within the membranes) cross or lie near the internal cervical os. If these vessels tear during labour or rupture of membranes, the bleeding is from the fetus rather than the mother—leading to acute fetal exsanguination. By contrast, abruptio placentae and placenta previa typically involve maternal vessels. Circumvallate placenta is a placental shape variant associated with some risks but not typically fetal vessel rupture.

108. (d) Oesophageal atresia

Oligohydramnios arises when amniotic fluid production is decreased or fluid is lost, as in post-term pregnancy (reduced placental function), premature rupture of membranes (escape of fluid), or severe fetal growth restriction (reduced urine output). Oesophageal atresia interferes with fetal swallowing, which typically results in polyhydramnios, as swallowed fluid cannot pass into the GI tract. Hence, oesophageal atresia is not associated with oligohydramnios; it is, in fact, linked to the opposite phenomenon.

109. (c) Incompetent cervix

Mid-trimester (around 14–20 weeks) pregnancy losses often point toward an incompetent (or insufficient) cervix, where the cervix painlessly dilates prematurely under the growing fetal weight. While TORCH infections, hepatitis B, and chromosomal translocations can cause miscarriage (often earlier in gestation), a history of painless second-trimester losses is classically linked to cervical incompetence. Investigating and possibly treating with cervical cerclage may help prolong future pregnancies in such patients.

110. (d) Chromosomal anomalies of foetus

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The majority of first-trimester miscarriages (often quoted around 50–60%) result from chromosomal aberrations in the embryo or fetus, such as trisomies, monosomies, or other genetic errors. Causes like cervical incompetence or progesterone deficiency tend to affect the second trimester or specific clinical scenarios. Antiphospholipid syndrome can also contribute to recurrent pregnancy loss but does not overshadow the very common sporadic chromosomal anomalies as the leading cause of early miscarriages.

111. (a) Down's syndrome

In maternal serum screening, a low level of alpha-fetoprotein (AFP), often paired with altered levels of hCG and estriol, can suggest an increased risk of Down syndrome (trisomy 21). Elevated AFP levels more commonly point to open neural tube defects (e.g., anencephaly, spina bifida) or abdominal wall defects. Thus, significantly decreased AFP is classically associated with chromosomal aneuploidies such as Down's syndrome.

112. (a) Parkinsonism

Cord blood stem cells are well established in treating hematological conditions like leukemia and certain immunodeficiencies. They are also under investigation for potential application in various metabolic disorders (including some forms of diabetes) and possibly regenerative medicine. However, routine or well-validated treatment protocols for neurodegenerative conditions like Parkinson's disease do not yet exist using umbilical cord blood. Osteoporosis likewise has no widely accepted cord-blood-based therapy, but among the choices given, Parkinsonism is the clearer "except" for recognized standard usage.

113. (c) Follow up with Beta-hCG after one week

In single-dose methotrexate protocol for ectopic pregnancy, the critical beta-hCG checks are on day 4 and day 7 (relative to injection day). A transient rise in hCG is common before it begins to fall. If by day 7 there is not at least a 15% decrease from the day 4 value, a repeat dose of methotrexate is considered. Finding 7000 IU/ml at 48 hours (day 2) does not itself mandate immediate repetition or surgery; continuing to follow up until the day 7 check is standard.

114. (d) To follow up with Pap test at 6 months

ASCUS (Atypical Squamous Cells of Undetermined Significance) is a mild abnormality where immediate invasive measures are usually unnecessary in a low-risk patient. Current guidelines often recommend either reflex HPV testing or repeating the Pap smear in about 6 months (some guidelines say 12 months if HPV testing is not available). Immediate repeat or aggressive treatment (cryotherapy, LLETZ) is not first-line unless higher-grade changes are suspected. Therefore, scheduling a 6-month follow-up Pap test is the accepted next step.

115. (c) Swyer syndrome

Swyer syndrome (46,XY pure gonadal dysgenesis) presents with a typical female external phenotype but non-functional "streak" gonads, leading to absence of pubertal development (no breast enlargement) due to lack of sex steroid production. By contrast, complete androgen insensitivity (testicular feminization) shows normal breast development from peripheral estrogen conversion. Mixed gonadal dysgenesis usually displays asymmetric gonads and ambiguous features. Defective antimullerian hormone leads to persistent Müllerian structures in a genetic male but not necessarily complete lack of secondary sexual development.

116. (b) Monilial vaginitis

A classic "curdy white" or "cottage cheese–like" discharge with pruritus strongly indicates Candida albicans (monilial) infection. Patients on oral contraceptive pills can have hormonal changes that predispose to vaginal candidiasis. Trichomonas vaginalis typically causes a frothy, yellow-green discharge. Gardnerella vaginalis (bacterial vaginosis) often produces a thin, grayish-white discharge with a fishy odor. Atrophic vaginitis occurs postmenopausally and is linked to thinning of vaginal epithelium rather than a curdy discharge.

117. (a) Cervix

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40. The best cure rates for keloids are achieved by:
(a) Surgical excision
(b) Localised irradiation
(c) Intralesional injection of triamcinolone
(d) Intralesional excision followed by radiotherapy

41. A 30 year old G2P1L0 with history of anencephaly in previous pregnancy has a nuchal fold thickness of 2.5 mm with other normal fetal parameters. She may be having:
(a) Trisomy 21
(b) Spina bifida
(c) Normal pregnancy
(d) Trisomy 18

42. A 26 year old primigravida presents with blood pressure of 160/110 mmHg, proteinurea and congestive heart failure. Which drug is not useful in this situation?
(a) Methyl-dopa
(b) Labetalol
(c) Nifedipine
(d) Diuretics

43. A pregnant woman with 30 weeks gestation presents with BP 166/110 mmHg with pulmonary edema with convulsions. The woman is given magnesium sulphate. The following drug should be avoided:
(a) Intravenous Labetalol
(b) Sublingual Nifedipine
(c) Intravenous Frusemide
(d) Intravenous Hydralazine

44. A woman undergoing treatment of infertility presents with triplet pregnancy. The most probable drug given to her for treatment of infertility would have been:
(a) Clomiphene Citrate
(b) Inj HMG
(c) Inj hCG
(d) Inj GnRH analogue

45. A woman presents with abdominal pain and nausea with amenorrhea of 5-6 weeks. Ectopic pregnancy can be diagnosed if:
(a) Serum progesterone 25 ng/ml
(b) Beta hCG <1000 IU/L with endometrial thickness of 14mm
(c) Beta hCG 2000 IU/L with no gestational sac in the uterus on transvaginal sonography
(d) Beta hCG >3000 IU/L with empty uterus on transvaginal sonography"

46. A woman suffering from active tuberculosis not on ATT has a full term vaginal delivery. All the following should be done except:
(a) Breastfeed the neonate
(b) BCG should be given to the neonate
(c) Neonate should be given INH
(d) Neonate should be isolated from mother

47. A woman with post-term pregnancy with unripe cervix should not be induced with misoprostol if she has:
(a) Asthma
(b) Diabetes
(c) Hepatitis B antigen positive
(d) Decompensated heart disease

48. An overweight, hirsuit woman of 30 years, with one live issue presented to the family planning clinic for advice for contraception. The best suited oral contraceptive will contain the following:
(a) Norgestrel
(b) Norethisterone
(c) Cyproterone acetate
(d) Medroxyprogesterone acetate

49. Contraceptive options for a 28 year old woman who is breastfeeding a six week old baby, wanting to avoid pregnancy for a longer interval are the following except:
(a) LNG-IUD
(b) IUD-380A
(c) Implanon
(d) Combined oral contraceptives

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malignant)

19. In a male patient of road traffic accident with blood at the tip of external meatus, the likely injury is:
(a) Injury to urethra
(b) Injury to urinary bladder
(c) Injury to kidney
(d) Injury to all of these

20. A 35 year old female has inflammatory carcinoma of left breast, with clinically palpable two left axillary lymph nodes and no clinically or radiologically detectable metastasis. Her TNM staging will be:
(a) T4 N2 M0
(b) T4b N2 M0
(c) T4d N1 M0
(d) T4d N2 M0

21. Milan trial, NSABP trial and EORTC trial in breast cancer compared:
(a) Chemotherapy vs Radiotherapy in breast cancer
(b) Breast conservative therapy vs Mastectomy
(c) Neo adjuvant chemotherapy vs Adjuvant chemotherapy
(d) Hormonal vs Chemotherapy

22. Regarding breast conservative therapy and issue of post operative local recurrence, all are true except:
(a) Lumpectomy can be considered in any size provided the tumour can be excised with clear margins and acceptable cosmetic results
(b) Margins should be clear for invasive cancer
(c) Margins should be clear for ductal carcinoma in situ (DCIS)
(d) Margins should be clear for lobular carcinoma in situ (LCIS)

23. A 75 year old lady came with an incidentally diagnosed splenic artery aneurysm which after radiological investigation confirmed to be calcified. She should be offered:
(a) Observation
(b) Embolisation
(c) Endovascular stenting
(d) Laparoscopic splenic artery ligation and splenectomy

24. Regarding choledochal cysts, following features are true except:
(a) Congenital cysts
(b) 60% are diagnosed before 10 years
(c) Older presentations have an acquired variant
(d) Increased risk of cholangiocarcinoma in older presentations

25. A 55 year old gentleman presented with history of right upper quadrant discomfort, jaundice, pruritis, fever, fatigue and weight loss. His serum bilirubin and alkaline phosphatase levels are raised and he also gives history of treatment for inflammatory bowel disease. He is most likely to be suffering from:
(a) Benign bile duct stricture with cholangitis
(b) Biliary worms
(c) Bile duct malignancy
(d) Primary sclerosing cholangitis

26. Regarding carcinoma gall bladder, following features are true except:
(a) One can have similar presentation with benign biliary disease
(b) Squamous cell carcinoma is 40% of all cases
(c) Most patients present with advanced disease
(d) Prognosis is poor

27. A 45 year old female presented with a cystic lesion in the lesser sac on CT scan. Endoscopic ultrasound guided aspiration showed amylase to be 500 IU and carcinoembryonic antigen as 500 ng/ml. What was she suffering from?
(a) Pseudocyst pancreas with ductal communication
(b) Chronic pseudocyst
(c) Pancreatic adenocarcinoma
(d) Mucinous neoplasm of pancreas

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(c) Partial plastic port
(d) Complete plastic port

9. Southampton wound grading system and ASEPSIS wound score is used for
(a) Severity of wound infections
(b) Surgical site cosmesis
(c) Surgical scar
(d) Severity of granulation tissue

10. A 75 year old diabetic man had surgery for perforated colonic diverticulitis. In his post operative period he complained of severe wound pain and had signs of spreading inflammation with crepitus with subdermal spread of gangrene. He is likely to be suffering from
(a) Clostridial infection
(b) Meleney synergistic gangrene
(c) Abdominal wall cellulitis
(d) Intra-peritoneal collection

11. All of the following are congenital sinuses except:
(a) Pre auricular
(b) Urachal sinus
(c) Coccygeal
(d) Pilonidal

12. An obese 45 year lady who is a chronic smoker came with tender subcutaneous nodules with chronic inflammation with scarring under her left axilla. She is likely to be suffering from:
(a) Lipodystrophy
(b) Hidradenitis suppurativa
(c) Xeroderma pigmentosum
(d) Pyoderma gangrenosum

13. The priority in management of supracondylar fracture of humerus in a child is:
(a) Preservation of Brachial artery entanglement
(b) Debridement of wound
(c) Antibiotics
(d) Immobilization

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14. All of the following are premalignant lesions except:
(a) Actinic Solar Keratosis
(b) Bowen's Disease
(c) Giant Hairy Naevus
(d) Rhinophyma

15. A 50 year old man with long history of swelling in his right parotid region had sudden history of occasional pain, nerve weakness along with paresthesia. His fine needle aspiration cytology was inconclusive. What should be the next step?
(a) Superficial Parotidectomy
(b) Trucut Biopsy
(c) MRI
(d) CT Scan

16. A 70 year old man with history of smoking has a 1 cm ulcerative lesion over the vermilion of his upper lip. What is he likely to be suffering from?
(a) Squamous cell carcinoma
(b) Basal cell carcinoma
(c) Spindle cell carcinoma
(d) Adenoid squamous carcinoma

17. A 55 year old male came with history of hoarseness of voice for which direct laryngoscopy was done and the lesion was biopsied to detect squamous cell carcinoma. He now requires investigation to detect extent of cartilage involvement, imaging of pre and paraglottic spaces and any extension to deep neck structures. Most appropriate investigation of choice will be:
(a) CT Scan
(b) Endo Ultrasound
(c) MRI
(d) Repeat direct laryngoscopy under general anaesthesia

18. Breast imaging reporting and data system (BI-RADS): Final assessment categorized a 45 year old female to have Category 5 disease. What does the report signify?
(a) Incomplete assessment
(b) Negative- Annual screening can be recommended.
(c) Probably benign ($\leq$2% malignant)
(d) Highly suggestive of malignancy ($\geq$95%

QUESTION PAPER 2015

1. A 20 year old female was operated for perforation peritonitis and after closing the rectus sheet her abdominal wound was left open to heal with proliferative granulation tissue which contracted and epithelized to form a scar. This patient had undergone healing by:
   (a) Primary intention
   (b) Secondary intention
   (c) Tertiary Intention
   (d) Delayed primary intention

2. A 50 year old patient had a haematoma in his left gluteal region which was large, painful and causing some neural deficit. The next plan of management will be to:
   (a) Apply some superficial ointment for it to subside
   (b) Get an CECT or MRI done
   (c) Incise or aspirate the haematoma
   (d) Leave it alone

3. An 18 year old boy had a closed lower limb injury while riding his motorbike. He was brought to hospital where on examination he had severe pain which increased on passive movement of effected limb with distal sensory disturbances. What is the probable diagnosis?
   (a) Degloving Injury
   (b) High Pressure Injection injury
   (c) Compartment syndrome
   (d) Deep Vein thrombosis

4. A surgeon told the patient's attendant that his patient has 'flesh eating bug' which is the cause of such severe infection in his dirty wound on his lower limb. Which organism was the surgeon referring to?
   (a) Staphylococcus aureus
   (b) Pseudomonas aeruginosa
   (c) Clostridium difficile
   (d) Steptococcus pyogenes

5. In Hernia repair, polypropylene suture is used because
   (a) It is a synthetic braided dyed absorbable suture with low tissue reaction and high tensile strength
   (b) It is synthetic monofilament dyed non absorbable suture with low tissue reaction and high tensile strength
   (c) It is a synthetic monofilament undyed absorbable suture with high tissue reaction and low tensile strength
   (d) It is a synthetic monofilament undyed non absorbable suture with high tissue reaction and which degrades at 15-20% per year

6. A 60 year old lady had a pyothorax which was treated with an intercostal chest drain. After two days, the meniscus of the fluid in the tube was not swinging during her respiratory process. What could be the likely problem?
   (a) Chest drain blockage
   (b) No fluid in the chest drain bag
   (c) Water seal not proper
   (d) High atmospheric pressure

7. The main principle regarding removal of drain after surgery is
   (a) Keep drains as long as possible to prevent complications
   (b) Drains kept for colo-rectal anastomosis should be removed within 2 days as they can cause complications
   (c) Suction drains can be removed early
   (d) Drain should be removed as soon as it is no longer required

8. The Chief of laparoscopic surgery asked his assistant to give him a laparoscopic port which has absolutely no chance of 'capacitance coupling' during laparoscopic surgery. Which port should the assistant give to the Chief?
   (a) Metal laparoscopic port
   (b) Metal port with plastic cuff

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28. During Pylorus preserving pancreaticoduodenectomy (PPPD) the following organs are removed except:
(a) Distal Bile Duct
(b) Stomach
(c) Gall bladder
(d) Head of pancreas

29. In Crohn's disease all are true except:
(a) Can occur anywhere in GIT
(b) Fistula formation is common
(c) Crypt abscess are common
(d) Full thickness bowel involvement

30. Glasgow Coma Score Scale pertains to:
(a) Head injury only
(b) Head and cervical injury
(c) Chest injury
(d) Level of consciousness

31. Muscle relaxant ideal for rapid intubation and short procedures is:
(a) Vecuronium
(b) Atracurium
(c) Rocuronium
(d) Suxamethonium

32. A 22 year old male addicted to alcohol and abused with pan-masala-arecanut comes to the clinic with limited mouth opening and restricted tongue movement. The clinical suspicion will be of:
(a) Chronic hyperplastic candidiasis
(b) Sub-mucous fibrosis
(c) Leukoplakia
(d) Sideropenic dysphagia

33. A 56 year old male comes with history of claudication pain in both buttocks, thighs and calves. He also gives history of impotence. The probable site of arterial occlusion is:
(a) Aortoiliac occlusion
(b) Iliac obstruction
(c) Proximal femoral artery occlusion
(d) Distal femoral artery occlusion

34. The earliest clinical sign of an impending burst abdomen is:
(a) Serous wound discharge
(b) Erythema of the wound
(c) Tachycardia and high grade fever
(d) Pus discharge from the wound

35. Most common neoplasm of thyroid gland is:
(a) Papillary carcinoma
(b) Squamous cell carcinoma
(c) Follicular carcinoma
(d) Hashimoto's disease

36. Which of the following blood components has the shortest shelf life?
(a) Red Blood Cells
(b) Platelets
(c) Fresh frozen plasma
(d) Cryoprecipitate

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37. Consider the following features:
1. Visible gastric peristalsis
2. Bilious vomiting
3. Palpable tumour
4. Melena

Which of these is/are feature/features of infantile hypertrophic pyloric stenosis?
(a) 1, 2 and 3
(b) 1 and 3 only
(c) 2 and 4
(d) 4 only

38. A 24 year old married lady presents with sudden onset right iliac fossa pain. On examination she has marked pallor and is hypotensive. What is the most likely diagnosis?
(a) Appendicular perforation
(b) Ruptured ectopic pregnancy
(c) Twisted ovarian cyst
(d) Small bowel perforation

39. Which of the following layers is most important in intestinal anastomosis?
(a) Mucosa
(b) Submucosa
(c) Muscularis propria
(d) Serosa

One site where antisperm antibodies classically arise is the cervix—specifically the cervical mucus. These antibodies can impair sperm motility or viability, reducing the chance of successful fertilization. While antisperm antibodies can theoretically develop in other reproductive tract locations, the cervix (and sometimes seminal fluid in males) is the most frequently implicated. Such immunologic incompatibility is an important cause of "cervical hostility," leading to infertility.

118. (b) Tranexamic acid

A "chocolate cyst" is an endometrioma (ovarian endometriosis). After surgical management, medical therapies aimed at suppressing endometriosis may be continued to reduce recurrence—these include GnRH analogs like leuprolide, progestogens, or newer agents like dienogest. Tranexamic acid, however, is primarily an antifibrinolytic used to control heavy bleeding episodes (e.g., menorrhagia), not to suppress endometriosis or prevent lesion recurrence. Thus, among the listed options, tranexamic acid is the one that does not serve a preventative role in endometriosis management post-operation.

119. (a) NuvaRing

NuvaRing is a combined hormonal contraceptive (estrogen + progestin). In women older than 35 with poorly controlled hypertension or significant cardiovascular risk factors, combined hormonal methods pose heightened risk of thrombotic and cardiovascular events and are generally avoided. The minipill (progestin-only pill), copper IUCD, or levonorgestrel-releasing IUCD are usually safer alternatives for hypertensive patients, as they do not carry the same level of estrogen-related cardiovascular risk.

120. (c) Adenomyosis

Adenomyosis involves the presence of endometrial glands and stroma deep within the uterine myometrium, leading to a uniformly enlarged, often tender uterus. Patients commonly present with severe dysmenorrhea, menorrhagia, and sometimes dyspareunia—particularly with involvement of the posterior uterine wall, causing posterior fornix tenderness. Fibroids (especially subserosal) may cause enlargement but often result in an irregularly contoured uterus. Dysfunctional uterine bleeding and endometrial carcinoma do not typically present with a uniformly enlarged, tender uterus and prominent dyspareunia.

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50. A woman using combined oral contraceptive has the following non contraceptive benefits except:
(a) Protection against PID
(b) Prevention of colorectal malignancy
(c) Protection against ovarian cancer
(d) Protection against cervical cancer

51. A 40 year old lady is examined and found to have uterovaginal prolapse. What is the appropriate surgery to prevent recurrence?
(a) Abdominal hysterectomy with Moscowitz operation
(b) Vaginal hysterectomy with anterior and posterior colporrhaphy and McCall culdoplasty
(c) Vaginal hysterectomy with McCall culdoplasty
(d) Vaginal hysterectomy with sacrospinocolpopexy

52. Cervical mucus examination of a 22 year old infertile woman is done to look for all the following except:
(a) Cellularity of mucus
(b) Presence of HPV
(c) Ferning
(d) Spinnbarkeit

53. In a 28 year old infertile woman with anovulation, the following parameters will indicate ovulation except:
(a) Insler score
(b) Vaginal smear
(c) Serum estradiol levels
(d) Urinary LH levels

54. Therapeutic options for a 30 year old woman suffering from severe pain due to endometriosis are the following except:
(a) Mirena
(b) Oral contraceptives
(c) Letrozole
(d) Sildenafil

55. Waste disposal of placenta after delivery is done by
(a) Disposing it in blue bags
(b) Autoclaving
(c) Incineration
(d) Microwaving

56. Features of Janani Suraksha Yojana are the following except:
(a) 100% Centrally sponsored scheme
(b) ASHA is a link between woman and Government
(c) Cash assistance is given to mothers for high and low performing states
(d) It promotes institutional deliveries

57. Ideal time to perform post partum sterilization as per Government of India guidelines is:
(a) From 12 hours to 7 days of delivery
(b) From 24 hours to 7 days of delivery
(c) From 48 hours to 7 days of delivery
(d) Within 7 days of delivery

58. Regimen for medical abortion up to 7 weeks of gestation as per Government of India guidelines includes:
(a) 200 mg of mifepristone on D_1 followed by 800 μg of misoprostol on D_3
(b) 200 mg of mifepristone on D_1 followed by 400 μg of misoprostol on D_3
(c) 400 mg of mifepristone on D_1 followed by 800 μg of misoprostol on D_3
(d) 400 mg of mifepristone on D_1 followed by 400 μg of misoprostol on D_3

59. The most common sign of rupture of previous LSCS scar during labour is:
(a) Cessation of uterine contractions
(b) Non-reassuring fetal heart rate pattern
(c) Tenderness in lower abdomen
(d) Haemorrhagic shock

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60. Serum CA-125 levels can be raised in all the following except:
(a) Epithelial ovarian cancer
(b) Endometriosis
(c) Tubercular ascitis

(d) Mature cystic teratoma of ovary

61. A 30 year old healthy woman presents with decreased bleeding during menstruation. The cause could be all of the following except:
(a) Endometriosis
(b) Tuberculosis
(c) Intrauterine adhesions
(d) Breastfeeding

62. For the treatment of a woman with frothy vaginal discharge with fishy smell the following are essential except:
(a) Partner treatment
(b) Use of condom by partner
(c) Metronidazole
(d) Washing of private parts with antiseptics / disinfectants

63. During immediate puerperium,
(a) the number of white cells decreases
(b) the number of white cells increases
(c) the number of eosinophils increases
(d) the number of lymphocytes increases

64. Which one of the following is the best contraceptive for a newly married couple who wants to postpone pregnancy for one year?
(a) Intrauterine contraceptive device
(b) Condom with spermicidal cream
(c) Safe period method
(d) Combined oral contraceptives

65. Which one of the following is not a branch of internal iliac artery?
(a) Superior gluteal
(b) Inferior gluteal
(c) Uterine artery
(d) Ovarian artery

66. A 30 year old multiparous woman comes with an ultrasound report of fibroid uterus measuring 3 x 3 cm. Her only complaint is mild pain during menstruation. The best management in this would be:
(a) Hysterectomy
(b) Myomectomy
(c) Gn-RH analogues
(d) Reassurance

67. The most accurate method to diagnose adenomyosis is:
(a) MRI
(b) PET-CT
(c) Transvaginal sonography
(d) Hysterosalpingography

68. On ultrasonography low-lying placenta is labelled when implantation in the lower uterine segment is such that:
(a) Placental edge does not reach the internal os and remains 2 cm wide perimeter around the os
(b) Placental edge does not reach the internal os and remains 3 cm wide perimeter around the os
(c) Placental edge does not reach the internal os and remains 4 cm wide perimeter around the os
(d) Internal os is covered partially or fully by the placenta

69. Which one of the following cardiovascular parameters decreases during pregnancy?
(a) Arterial blood pressure
(b) Cardiac output
(c) Blood volume
(d) Red cell mass

70. A multipara with 8 gm% haemoglobin at 30 weeks' gestation should be treated by:
(a) Oral iron therapy
(b) Parenteral iron
(c) Whole blood transfusion
(d) Packed cell transfusion

71. The progress of labour can be monitored by observing the following except:
(a) The intensity of uterine contractions by abdominal examination
(b) The descent of foetal head by abdominal examination
(c) The formation of caput by vaginal

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examination
(d) Gradual increase in cervical dilatation by vaginal examination

72. Prophylactic intravenous methergin should not be given in cases of:
(a) Multipara
(b) Hydramnios
(c) Heart disease complicating pregnancy
(d) Anaemia

73. During labour, which one of the foetal heart patterns is ominous?
(a) Variable deceleration
(b) Tachycardia
(c) Early deceleration
(d) Late deceleration

74. A case of ante-partum haemorrhage is seen at a Primary Health Centre. The treatment will consist of:
(a) Assessment of general condition of the patient, intravenous drip and reference to a hospital
(b) Vaginal examination and reference to a hospital only if diagnosed as placenta praevia
(c) Packing the vagina to stop the bleeding and then reference to a hospital
(d) Internal podalic version and delivery

75. A 20 year old full term primigravida is admitted with full dilatation of the cervix and breech presentation. Breech is not engaged. Foetal heart is normal. The proper procedure for the management would be:
(a) Caesarean section
(b) Breech extraction
(c) Oxytocin drip augmentation
(d) To bring down the leg

76. Which one of the following factors is the most significant as a risk factor for post-partum psychosis?
(a) Primiparity
(b) Undesired pregnancy
(c) Unmarried status
(d) History of post-partum psychosis

77. The main cause of perinatal mortality in 'Frank breech presentation' is:
(a) Trauma to foetal viscera
(b) Foetal abnormalities
(c) Intracranial haemorrhage
(d) Prolapse of umbilical cord

78. A 45 year old woman presents with continuous vaginal bleeding for 15 days. Her bleeding should be controlled by:
(a) Conjugated equine oestrogens
(b) Synthetic progestogens
(c) Testosterone propionate
(d) Curettage followed by progestogens

79. The treatment of primary spasmodic dysmenorrhoea in a young girl as a first measure would be:
(a) Presacral neurectomy
(b) Analgesics and antispasmodics
(c) Oral contraceptives
(d) Dilatation and curettage

80. A 44 year old woman presents with polymenorrhoea for one year. Clinical examination reveals bulky uterus with no other abnormality. D & C report is simple hyperplasia. What is the treatment of choice?
(a) Progestogen therapy
(b) GnRH analogues
(c) Combined oral pills
(d) Total hysterectomy with bilateral salpingo-oophorectomy

81. Consider the following:
1. Health Education
2. Treatment of hypertension
3. Screening for cervical cancer
4. Changing lifestyles to prevent stress
Which are examples of primordial prevention?
(a) 1 and 4
(b) 2 and 3
(c) 1 and 3
(d) 2 and 4

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1. (b) Secondary intention

When a wound is left open and allowed to heal from the bottom up through the formation of granulation tissue, wound contraction, and subsequent epithelialization, it is said to heal by secondary intention. This approach is commonly used when primary closure is not feasible or when there is a high risk of infection. Because the wound edges are not approximated, the process involves substantial granulation tissue formation, which ultimately leads to a larger scar but effectively closes the defect.

2. (c) Incise or aspirate the haematoma

A large, painful haematoma that produces neural deficit warrants decompression to relieve pressure on surrounding structures and prevent further complications. Simply applying ointment or leaving it alone may lead to ongoing compression, possible infection, or necrosis. Imaging can be helpful in unclear cases, but with a clinically significant, sizable haematoma causing neurological issues, the priority is evacuation (either by aspiration or incision) to reduce the mass effect and hasten recovery.

3. (c) Compartment syndrome

Compartment syndrome is characterized by intense pain out of proportion to what is expected, especially pain exacerbated by passive stretching of the muscles in the affected compartment, along with sensory deficits. Because swelling or bleeding elevates pressure within a confined fascial space, circulation and nerve function become compromised. Prompt recognition is crucial because prolonged elevated pressures can lead to permanent muscle and nerve damage. The hallmark clues are severe pain on passive movement and sensory changes distally.

4. (d) Steptococcus pyogenes

The term "flesh-eating bug" usually refers to Streptococcus pyogenes (Group A Streptococcus), which is a common cause of necrotizing fasciitis. This bacterium produces toxins and enzymes that facilitate the rapid destruction of soft tissue and fascia, resulting in severe, rapidly progressive infections. While other organisms can occasionally cause a similar clinical picture, "flesh-eating disease" is most often linked to Streptococcus pyogenes in surgical and medical terminology. Early diagnosis and aggressive surgical and medical intervention are essential.

5. (b) It is synthetic monofilament dyed non absorbable suture with low tissue reaction and high tensile strength

Polypropylene (e.g., Prolene) is a synthetic, non-absorbable, monofilament suture well known for its high tensile strength and minimal tissue reaction. Although some variants are dyed (commonly blue), its prime advantage is that it provides strong and lasting fixation (especially useful in hernia repairs) and incites less inflammatory response compared to braided or absorbable sutures. It does not degrade significantly over time, making it particularly suitable for permanent repair of abdominal wall defects.

6. (a) Chest drain blockage

Normally, the fluid column in a chest tube's water seal chamber should move (swing) with inspiration and expiration as intrathoracic pressure changes. When the meniscus does not swing, one common reason is obstruction of the chest tube, such as by clot, fibrin, or kinked tubing. This prevents air or fluid in the pleural space from moving freely in and out of the drainage system. Timely detection and rectification are essential to ensure effective drainage and resolution of the pyothorax.

7. (d) Drain should be removed as soon as it is no longer required

Surgical drains reduce fluid collection but can themselves introduce infection and hinder

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(c) 1 and 4
(d) 3 and 4

93. Which of the following is the most common malignant tumour in adult males in India?
(a) Lung cancer
(b) Oro-pharyngeal carcinoma
(c) Gastric carcinoma
(d) Colo-rectal carcinoma

94. Eight months old child had history of unusual crying and convulsions following previous vaccination after BCG, DPT & OPV (first dose), and Hepatitis B. Now parents have brought child for next doses of vaccination. Which vaccine is contraindicated in this situation?
(a) Measles
(b) DPT
(c) Hepatitis B
(d) DT

95. The clinical features of Turner Syndrome in girls include the following except:
(a) Severe mental retardation
(b) Webbing of the neck
(c) Delayed puberty
(d) Short stature

96. Occupational exposure to Benzol may lead to:
(a) Lung cancer
(b) Leukaemia
(c) COPD
(d) Neurofibromas

97. Marriage between two heterozygous individuals for the same disorder is prevented by:
(a) Retrospective genetic counselling
(b) Prospective genetic counselling
(c) Legislation
(d) Mass health education

98. The benefits of ESI Act include the following except:
(a) Medical benefit
(b) Rehabilitation allowance
(c) Sickness benefit
(d) Nutritional allowance

99. The following are group health education approaches except:
(a) Lecture
(b) Demonstration
(c) Role play
(d) Documentary

100. Current WHO recommendations for initiating Antiretroviral treatment (ART) in HIV +ve individuals is:
(a) CD_4 cells less than 200 cells/mm^3
(b) CD_4 cells less than 250 cells/mm^3
(c) CD_4 cells less than 300 cells/mm^3
(d) CD_4 cells less than or equal to 350 cells/mm^3

101. The following are the principles of Primary Health Care except:
(a) Intersectoral coordination
(b) Provision of specialist services at Primary Health Centres
(c) Appropriate technology
(d) Equitable distribution of health care

102. Which one of the following is a quantitative method of health management?
(a) Cost effectiveness analysis
(b) Human Resource Management
(c) Communication management
(d) Supportive supervision and leadership

103. Acute Respiratory Infections (ARI) are important causes of under-five mortality in India. In remote areas, children develop frequent episodes of ARI. What measures will you take for prevention and control of ARI amongst under-five children in that area?
(a) Case management and Health education to mothers
(b) Vaccination
(c) Controlling malnutrition, Promoting breast feeding and vitamin A supplementation
(d) All of these

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82. When the prevalence rate is used without any qualification, it is taken to mean as:
(a) Point prevalence rate
(b) Period prevalence rate
(c) Annual prevalence rate
(d) Mean duration prevalence rate

83. An outbreak of viral hepatitis A was reported from a town between June and August of a particular year. Of total cases, 60% occurred in July. Exposure of the community to infection is from:
(a) A common single source for a short period
(b) A common single source for a prolonged period
(c) Multiple sources for a short period
(d) Multiple sources for a prolonged period

84. Rheumatic Heart Disease can be prevented by:
(a) Screening of school going children
(b) Vaccination against Streptococcus
(c) Treatment of respiratory infections in children
(d) All of these

85. The addition of killed Bordetella pertussis microorganisms to diphtheria toxoid enhances the antibody response of the latter because of
(a) exotoxin of the Bordetella organism
(b) additive action of the two antigens
(c) formation of local granuloma
(d) endotoxin of the Bordetella organism

86. Post exposure prophylaxis against HIV infection should not be delayed beyond:
(a) 4 hours
(b) 8 hours
(c) 24 hours
(d) 48 hours

87. With reference to meningococcal meningitis, which one of the following statements is not correct?
(a) Fatality in untreated cases is 60%
(b) Disease spreads mainly by droplet infection
(c) Treatment of cases has no significant effect in epidemiological pattern of disease
(d) Mass chemoprophylaxis causes immediate drop in incidence rate of cases

88. Which of the following vaccines is/are contraindicated in pregnancy?
1. Rubella
2. Hepatitis-B
3. Diphtheria
Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

89. In a case of paucibacillary leprosy, treatment is considered adequate if the patient has received the six monthly doses of combined therapy within:
(a) 6 months
(b) 9 months
(c) 12 months
(d) 15 months

90. Chemoprophylaxis is indicated in the following conditions except:
(a) Cholera
(b) Meningococcal meningitis
(c) Plague
(d) Typhoid

91. Chandler's index is used in the epidemiological studies of:
(a) Ascariasis
(b) Hookworm infection
(c) Taenia solium infection
(d) Guineaworm disease

92. Consider the following diseases:
1. Measles
2. Polio
3. Staphylococcal food poisoning
4. Typhoid
Which of the above are the correct examples for incubation period of 10–14 days?
(a) 1 and 3
(b) 2 and 4

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115. A 20 year old male is diagnosed as a case of dengue fever at a Primary Health Centre. What are the suitable measures to be taken for the prevention and control of dengue in that area?
(a) Case management for DF and DHF and vaccination
(b) Case management for DF and DHF, isolation and individual protection from mosquitoes
(c) Case management for DF and DHF, isolation and individual protection from mosquitoes, and vaccination
(d) Case management for DF and DHF, isolation and individual protection from mosquitoes and environmental measures for elimination of breeding places

116. WHO defines a multi-drug resistant (MDR) Tuberculosis strain as one that is:
(a) At least resistant to INH
(b) At least resistant to Rifampicin
(c) Resistant to INH and Rifampicin with or without resistant to other anti TB drugs
(d) Resistant to Streptomycin only

117. Which of the following are the characteristic features of screening tests?
1. Done on healthy people
2. Done on unhealthy people
3. More accurate
4. Less accurate
5. Less expensive
6. More expensive
7. Not a basis for treatment
8. Used as a base for treatment

Select the correct answer using the code given below:
(a) 2, 4, 5, 8
(b) 1, 3, 5, 8
(c) 2, 3, 6, 7
(d) 1, 4, 5, 7

118. Which National Programme came into existence during the 11th Five Year Plan?
(a) National Cancer control programme
(b) National Cardiovascular diseases & Stroke control programme
(c) National Diabetes and Cancer control programme
(d) National Programme for prevention and control of Cancer, Diabetes, Cardiovascular diseases and Stroke

119. Which states are qualified as high prevalence states in the context of HIV/AIDS?
(a) When prevalence in high risk groups is more than 5%, and less than 1% in antenatal women
(b) When prevalence in high risk groups is more than 5%, and 1% or more in antenatal women
(c) When prevalence in high risk groups is less than 5%, and more than 1% in antenatal women
(d) None of these

120. Consider the following diseases:
1. Yellow fever
2. Q fever
3. Chikungunya fever
4. Relapsing fever
5. Japanese encephalitis
6. Sleeping sickness

Which of the above are transmitted by mosquitoes?
(a) 1, 2, 3, and 6
(b) 2, 3, and 5
(c) 4, 5, and 6
(d) 1, 3, and 5

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Actinic (solar) keratosis is a precursor to squamous cell carcinoma. Bowen's disease (squamous cell carcinoma in situ) can progress to invasive SCC. Giant hairy naevi can undergo malignant transformation (most concerning for melanoma). In contrast, rhinophyma is a severe form of rosacea affecting the nose, characterized by nodular thickening and hyperplasia of the sebaceous glands. Although disfiguring, rhinophyma is not considered a premalignant lesion. The focus in rhinophyma is largely cosmetic and functional rather than oncologic risk.

15. (c) MRI

A parotid swelling associated with new-onset facial nerve involvement raises concern for malignant transformation. After an inconclusive FNAC, imaging is critical to delineate tumor extent, involvement of adjacent structures, and possible perineural invasion. MRI offers superior soft-tissue contrast resolution, which is especially valuable around the parotid gland, facial nerve pathways, and deep parotid lobe. CT scan can also be used, but MRI is often preferred for suspected malignancies involving nerve structures in the parotid region.

16. (a) Squamous cell carcinoma

Chronic sun-exposed areas and smoking are recognized risk factors for squamous cell carcinoma (SCC) of the lip. The upper lip's vermilion border is a common site for SCC, which often presents as a non-healing, ulcerative or crusted lesion. Basal cell carcinoma is more frequently seen on the face (particularly the nose or periocular areas) and rarely on the vermilion. Other variants (spindle cell or adenoid SCC) are pathological subtypes, but the classic diagnosis with these risk factors and location is SCC.

17. (a) CT Scan

For staging laryngeal cancer, a contrast-enhanced CT scan of the neck is generally the investigation of choice to assess tumor extent, particularly any erosion or invasion into the laryngeal cartilages. While MRI can be better for some soft tissue details, CT is widely used for evaluating bony/cartilaginous involvement and for overall tumor mapping before definitive treatment. It also helps identify cervical lymphadenopathy. Repeat laryngoscopy aids direct visualization but does not adequately assess deep neck structures or cartilaginous integrity.

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18. (d) Highly suggestive of malignancy (≥95% malignant)

BI-RADS Category 5 indicates a radiologic finding that is highly suspicious of malignancy, carrying over a 95% chance of breast cancer. In such instances, a prompt biopsy is recommended to confirm pathology. Category 5 typically implies spiculated margins, irregular calcifications, or other concerning features that strongly suggest breast carcinoma. This categorization standardizes mammographic findings and helps guide clinicians in deciding the urgency of intervention. Subsequent definitive management (surgical or otherwise) depends on the biopsy results.

19. (a) Injury to urethra

Blood at the external urethral meatus after trauma (especially pelvic fractures) strongly indicates a possible urethral injury. This is a classic clinical sign prompting immediate caution: one should avoid blindly passing a urethral catheter before a retrograde urethrogram is performed to assess the site and extent of injury. Although bladder or kidney injuries can occur in major trauma, meatal bleeding is most specifically linked to urethral damage, which must be ruled out or confirmed to prevent worsening of the tear.

20. (c) T4d N1 M0

Inflammatory breast cancer is specifically classified as T4d. Here, two clinically palpable ipsilateral axillary lymph nodes are present, but the question does not indicate they are fixed or matted—this situation generally corresponds to N1. No distant metastases implies M0. Thus, the appropriate TNM classification is T4d N1 M0 for inflammatory carcinoma of the breast with clinically positive but not fixed axillary nodes and no distant spread.

21. (b) Breast conservative therapy vs Mastectomy

patient mobility. The current consensus is that drains should remain only for the shortest duration necessary—once fluid output is minimal or the surgical team judges there is no ongoing collection risk, the drain should be removed promptly. Prolonged drainage has been linked with an increased risk of infection and discomfort. Therefore, the general principle is to remove drains as soon as clinically feasible.

8. (d) Complete plastic port

Capacitance coupling occurs when electrical current passes through the insulation of laparoscopic instruments to conductive surfaces. A completely plastic port lacks conductive material and thus minimizes or eliminates the risk of unintended current transfer. Metal ports, or ports with metal components, can still conduct stray electrical energy, creating potential thermal injury. Hence, when the surgeon specifically wants "no chance" of capacitance coupling, a fully plastic port is chosen to ensure maximum patient safety.

9. (a) Severity of wound infections

Both the Southampton wound grading system and ASEPSIS classification are structured approaches to assess surgical wounds for the presence and severity of infection. They score parameters such as exudate, erythema, separation of wound edges, and other signs of infection. By standardizing the criteria, clinicians can more accurately describe wound status, compare outcomes, and guide management decisions (e.g., antibiotics, wound debridement). These systems help ensure consistency in reporting and help gauge the effectiveness of infection control practices.

10. (a) Clostridial infection

Crepitus in the tissue, with a rapidly spreading necrosis ("subdermal spread of gangrene"), strongly points to gas-forming bacteria such as Clostridium perfringens. Diabetic patients are particularly prone to severe soft tissue infections. Clostridial infections (gas gangrene) present with intense pain, crepitus due to gas production, and rapid tissue destruction. Meleney's gangrene is also necrotizing but tends to be more subacute, while abdominal wall cellulitis and intra-peritoneal collections typically do not cause extensive crepitus in the wound area.

11. (d) Pilonidal

A preauricular sinus and a urachal sinus are well-known congenital malformations. Coccygeal sinuses can be congenital (e.g., certain dermal sinuses at the sacrococcygeal area). Pilonidal sinuses, however, are widely accepted as acquired lesions typically caused by hair follicles penetrating into the subcutaneous tissue, creating a sinus that frequently becomes infected. Repetitive trauma or prolonged sitting may contribute to the condition. Because it is not present at birth, the pilonidal sinus is classified as non-congenital.

12. (b) Hidradenitis suppurativa

Hidradenitis suppurativa is a chronic inflammatory condition primarily involving the apocrine sweat glands in areas such as the axilla, groin, and under the breasts. It presents with recurrent, painful nodules that may suppurate and form sinus tracts, leading to scar formation. Risk factors include obesity, smoking, and hormonal influences. Lipodystrophy involves abnormal fat distribution, Xeroderma pigmentosum is a genetic photosensitivity disorder, and Pyoderma gangrenosum is a neutrophilic dermatosis. The chronic scarring nodules under the arm are classic for hidradenitis suppurativa.

13. (a) Preservation of Brachial artery entanglement

A supracondylar fracture of the humerus in children carries a high risk of neurovascular compromise, particularly to the brachial artery. Ensuring that the brachial artery is not trapped or kinked is a priority because vascular insufficiency can lead to ischemia and potentially Volkmann's ischemic contracture. While stabilization (immobilization) and preventing infection are also important, the immediate concern is to check and secure the neurovascular status. Prompt reduction and fixation help restore alignment and circulation to prevent permanent complications.

14. (d) Rhinophyma

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104. The following are objectives of Indian Public Health Standards for Primary Health Centres except:
(a) Provision of comprehensive primary health care
(b) Achievement of an acceptable quality of health care
(c) Provision of accident and emergency care
(d) Making services more responsive to the needs of the community

105. A pregnant woman in third trimester having fever was diagnosed as a case of Falciparum malaria. Under the National Health Programme, which drug is recommended?
(a) ACT only
(b) ACT accompanied by single dose of Primaquine on day 2
(c) Only Quinine
(d) Chloroquine

106. Which of the following genetic disorders leads to mental retardation?
(a) Haemophilia
(b) Phenylketonuria
(c) Cystic fibrosis
(d) Sickle cell anaemia

107. Biomedical waste from a yellow plastic bag is disposed by:
(a) Autoclaving
(b) Microwaving
(c) Incineration
(d) Chemical treatment

108. Which of the following is not a feature of heat stress?
(a) Hyperpyrexia
(b) Syncope
(c) Cramps
(d) Numbness

109. The denominator for calculating proportional mortality rate from a specific disease is:
(a) Mid-year population during that year
(b) Population at risk in that particular area
(c) Total deaths in that year
(d) Attributable deaths of a particular disease

110. Which one of the following is not a measure of dispersion?
(a) Mean
(b) Range
(c) Mean deviation
(d) Standard deviation

111. Analytical studies include the following methods of studies except:
(a) Case control studies
(b) Randomised controlled trials
(c) Cohort studies
(d) Cross sectional studies

112. Which of the following statements is false?
(a) Gestational diabetes can lead to Type-II diabetes after delivery.
(b) Gestational diabetes is always transient and cured after delivery.
(c) Gestational diabetes is a risk factor for diabetes in children born to mothers with GDM.
(d) Screening for gestational diabetes should be included in antenatal care.

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113. Cu-T-380 A IUCD should be replaced in:
(a) 4 years
(b) 6 years
(c) 8 years
(d) 10 years

114. Consider the following:
1. Coconut oil
2. Groundnut oil
3. Mustard oil

Which of the above is/are dietary sources of linoleic acid?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 3 only
(d) 2 and 3 only

Landmark studies such as the NSABP B-06, Milan, and EORTC trials evaluated the outcomes of breast-conserving surgery plus radiation therapy versus mastectomy in early-stage breast cancer. These trials confirmed that, for suitable patients, lumpectomy (wide local excision) with radiation achieves survival rates comparable to mastectomy. This validated the option of breast conservation for many women, greatly impacting surgical management by offering an alternative to full breast removal without compromising long-term outcomes.

22. (d) Margins should be clear for lobular carcinoma in situ (LCIS)

LCIS is regarded more as a marker of increased bilateral breast cancer risk than a true obligate precursor lesion. It does not require the same clear-margin excision mandate as invasive carcinoma or DCIS. By contrast, invasive cancer and DCIS demand negative (clear) margins to minimize local recurrence. While the cosmetic outcome and margin status are important in breast-conserving therapy, it is not standard practice to re-excise purely for LCIS at the margin.

23. (a) Observation

Splenic artery aneurysms that are small, asymptomatic, and heavily calcified often remain stable. Intervention (embolization, stenting, or surgical repair) is usually reserved for larger aneurysms (>2 cm), symptomatic aneurysms, or patients of childbearing potential because of the risk of rupture during pregnancy. In an elderly patient who is otherwise stable, observation with periodic imaging is typically the preferred strategy, since the calcified nature and small size often indicate low rupture risk.

24. (c) Older presentations have an acquired variant

Choledochal cysts are generally congenital dilations of the bile ducts, although some are detected in adulthood. The majority are discovered in childhood (commonly before age 10). Even those found in older patients are still considered congenital in origin, though they may remain asymptomatic until later. There is, in fact, a significantly increased lifetime risk of cholangiocarcinoma in individuals with choledochal cysts. The idea that "older presentations are truly acquired" is not typically recognized as standard.

25. (d) Primary sclerosing cholangitis

Primary sclerosing cholangitis (PSC) is associated with inflammatory bowel disease (often ulcerative colitis) and presents with a cholestatic picture (raised bilirubin and alkaline phosphatase), pruritus, fatigue, and occasionally cholangitis. PSC can progress to cirrhosis, portal hypertension, and increases the risk of cholangiocarcinoma. The classic link between IBD and sclerosing cholangitis, plus the pattern of liver enzyme elevation, makes PSC far more likely than benign strictures, parasitic infestations, or primary bile duct cancer alone.

26. (b) Squamous cell carcinoma is 40% of all cases

Over 90% of gallbladder cancers are adenocarcinomas. Squamous or adenosquamous variants are relatively rare, certainly not as high as 40%. Many patients do indeed present late, often mimicking benign gallbladder or biliary conditions, leading to advanced disease at diagnosis. Prognosis remains poor as a result of the late stage at which it is typically recognized. Hence the claim that squamous cell carcinoma constitutes 40% of gallbladder cancer cases is incorrect.

27. (d) Mucinous neoplasm of pancreas

A high CEA level (500 ng/ml) in fluid aspirated from a pancreatic cyst strongly suggests a mucin-producing lesion such as a mucinous neoplasm (including IPMN or mucinous cystic neoplasm). While a pseudocyst might have elevated amylase, it typically does not show such a high carcinoembryonic antigen level. A truly high CEA points toward a mucinous etiology rather than a simple inflammatory pseudocyst or a solid adenocarcinoma.

28. (b) Stomach

A classic pancreaticoduodenectomy (Whipple procedure) removes the head of the pancreas, duodenum, distal bile duct, and often part of the stomach. In a pylorus-preserving pancreaticoduodenectomy (PPPD), the pylorus

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of Bordetella nor simple additive antigenic action; the presence of bacterial endotoxin is what boosts immunogenicity of the combined vaccine.

86. (d) 48 hours

In reality, HIV PEP (post-exposure prophylaxis) is most effective the sooner it is started, ideally within 1–2 hours. Most guidelines, however, set an upper limit of 72 hours beyond which PEP is far less effective. Since 72 hours is not among the options given, the closest best cut-off is 48 hours. Delaying beyond this point greatly diminishes the potential benefit, so one should commence PEP as early as possible, but definitely not later than 48–72 hours in standard practice.

87. (c) Treatment of cases has no significant effect in epidemiological pattern of disease

Although asymptomatic carriers are indeed an important reservoir, treating active cases does help reduce transmission (for instance, by eliminating organisms from the index patient) and can alter disease patterns, especially in cluster settings. It is therefore not correct to say it "has no significant effect." The other statements are essentially true: meningococcal meningitis can have a high fatality (≈50–60%) if untreated, spreads via droplet infection, and mass (or close-contact) chemoprophylaxis (e.g. with rifampicin) can sharply curb secondary cases.

88. (a) 1 only

Rubella vaccine (part of MMR) is live attenuated and is contraindicated in pregnancy because of the theoretical risk of fetal infection. By contrast, Hepatitis-B vaccine is inactivated and safe; Diphtheria vaccine (as Td or Tdap) is also recommended during pregnancy to protect mother and newborn against diphtheria and pertussis. Thus only Rubella vaccination is contraindicated among the listed options.

89. (b) 9 months

WHO-recommended multi-drug therapy (MDT) for paucibacillary leprosy consists of 6 monthly "blister-packs" of rifampicin and dapsone. The regimen is ideally completed in 6 consecutive months. However, if patients miss a visit or default, WHO guidelines allow up to a maximum of 9 months to complete those 6 monthly doses and still consider the course "adequate." Beyond 9 months, the regimen is deemed incomplete, necessitating reassessment.

90. (d) Typhoid

Close contacts of meningococcal meningitis cases are given chemoprophylaxis (e.g., rifampicin) to prevent secondary cases. In plague outbreaks, prophylactic antibiotics (e.g., doxycycline) may be advised for contacts. Certain guidelines have also recommended short-term chemoprophylaxis in cholera hotspots. However, typhoid is primarily tackled by vaccination (especially in endemic areas) and improvements in hygiene/sanitation—routine chemoprophylaxis of contacts is not a standard measure.

91. (b) Hookworm infection

Chandler's index is a classical measure used specifically for the epidemiological assessment of hookworm infection, quantifying factors such as worm load and prevalence. It helps gauge the intensity of infection in a population and is named after the parasitologist who proposed it. Different parasitic diseases have their own specialized indices or prevalence measures.

92. (b) 2 and 4

1. Polio typically has an incubation period ranging from about 7 to 14 days (sometimes up to 21).
2. Typhoid commonly shows an incubation of about 10 to 14 days.
3. Measles often is quoted as 10 days to fever and 14 days to rash, but in many standard tables, the "classic" stated incubation for measles can be 8–12 days.
4. Staphylococcal food poisoning has a very short incubation (usually 2–6 hours).

Hence the best match for "10–14 days" from the given choices is (2) Polio and (4) Typhoid.

93. (a) Lung cancer

Current cancer registry data in India show lung cancer as the single most common malignancy

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condition, not a neoplasm (though it slightly raises the risk of lymphoma). Squamous cell carcinoma is very rare in the thyroid.

36. (b) Platelets

Stored platelets only remain viable for about 5 days at room temperature (with continuous gentle agitation to prevent clumping), which is notably shorter than other blood products. Red blood cells can be stored up to 35–42 days (depending on preservative solutions), and frozen components like FFP and cryoprecipitate can be stored for up to 1 year at −18°C or colder. The restricted shelf life of platelets poses a challenge in blood banking, necessitating frequent replenishment.

37. (b) 1 and 3 only

Infantile hypertrophic pyloric stenosis classically presents around 2–8 weeks of age with non-bilious projectile vomiting, visible gastric peristalsis, and a palpable "olive-like" mass in the epigastric region. Because the obstruction is proximal to the entry of bile into the duodenum, vomiting is typically non-bilious, not bilious. Melena is also not a standard feature. Thus, among the listed options, "Visible gastric peristalsis" and "Palpable tumour" (hypertrophied pylorus) are the key findings.

38. (b) Ruptured ectopic pregnancy

In a reproductive-age woman with acute onset lower abdominal pain, hypotension, and pallor, a ruptured ectopic pregnancy is highly suspected due to intra-abdominal bleeding. This can rapidly lead to hemodynamic instability. Although right iliac fossa pain may also suggest appendicitis or a twisted ovarian cyst, the systemic signs of shock (marked pallor and hypotension) in a sexually active female strongly point to a ruptured ectopic causing intra-peritoneal hemorrhage.

39. (b) Submucosa

The submucosa contains a dense network of collagen fibers that provide the critical tensile strength for intestinal anastomoses. Proper apposition of the submucosal layers ensures a secure suture line that holds firmly during healing. While the mucosa, muscularis, and serosa are important for bowel integrity and function, the submucosal layer is widely regarded as the key supporting framework that must be approximated accurately to prevent anastomotic leakage.

40. (d) Intralesional excision followed by radiotherapy

Keloids are exuberant scar formations that extend beyond the boundaries of the original wound. Simple excision alone has a high recurrence rate. Combining precise (intralesional) excision with postoperative radiotherapy offers the lowest recurrence rates by eliminating residual scar tissue while inhibiting fibroblast overactivity. Steroid injections (triamcinolone) and localized irradiation alone can help in selected cases, but the best long-term control typically comes from excising the lesion's core and applying adjuvant radiation.

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41. (c) Normal pregnancy

A nuchal translucency (or fold) up to about 2.5–3 mm can still be within normal range, especially when the fetal anatomy and other screening parameters are normal. Though her history of a prior neural tube defect (anencephaly) may heighten concern for fetal anomalies, the normal fetal parameters in this pregnancy suggest that this finding could be simply within the upper limit of normal. Without additional high-risk markers, the most likely scenario is a normal pregnancy.

42. (d) Diuretics

In severe preeclampsia with hypertension (160/110 mmHg), antihypertensive agents such as methyldopa, labetalol, and nifedipine are used. Although the patient has signs of heart failure, routine diuretic therapy is not generally recommended in preeclampsia because these women typically have reduced plasma volume already. Diuretics are reserved only for specific situations of fluid overload or pulmonary edema but are otherwise avoided since volume depletion can compromise uteroplacental perfusion. Therefore, diuretics are considered "not useful" as standard management.

43. (b) Sublingual Nifedipine

While labetalol, hydralazine, and careful use of diuretics may be indicated in severe preeclampsia with features of eclampsia (including pulmonary edema), sublingual nifedipine is typically avoided. It can produce abrupt hypotension and reflex tachycardia, potentially compromising placental perfusion. Oral or intravenous antihypertensives are preferred to achieve controlled, gradual blood pressure reduction. Sublingual nifedipine's rapid onset and unpredictable drop in BP can be dangerous in pregnancies complicated by eclampsia and fluid shifts.

44. (b) Inj HMG

Human Menopausal Gonadotropin (HMG) is a potent ovulation induction therapy that can stimulate multiple follicle development, thereby increasing the risk of multiple pregnancy—often more significantly than clomiphene citrate. While clomiphene can lead to twins or triplets, high-order multiple gestations are more frequently associated with the use of injectable gonadotropins (HMG). hCG is commonly used as a "trigger" for final oocyte maturation, not the primary factor in multiple gestation. Hence HMG is the most likely cause of triplet pregnancy here.

45. (c) Beta hCG 2000 IU/L with no gestational sac in the uterus on transvaginal sonography

A critical diagnostic criterion for ectopic pregnancy is the "discriminatory zone," typically around 1500–2000 mIU/mL of beta-hCG. If transvaginal ultrasound fails to visualize an intrauterine gestational sac when the beta-hCG level is above this threshold, an ectopic pregnancy is strongly suspected. Serum progesterone >25 ng/mL is more suggestive of a viable pregnancy, and simple endometrial thickness is not sufficient for diagnosis. Hence the classic teaching is that beta-hCG >2000 IU/L with no visible intrauterine sac indicates probable ectopic.

46. (d) Neonate should be isolated from mother

Mothers with pulmonary TB are encouraged to breastfeed; breast milk itself does not transmit Mycobacterium tuberculosis. Prophylactic isoniazid (INH) is given to the neonate, and BCG vaccination is administered to protect the baby against severe forms of TB. Routine separation (isolation) of the neonate from the mother is not advised if other precautions (maternal mask use, hygiene) are taken. Early maternal treatment initiation (ATT) also reduces transmission risk.

47. (d) Decompensated heart disease

Misoprostol (a prostaglandin E1 analogue) is used for cervical ripening and labor induction, but significant maternal cardiac compromise is a strong relative or absolute contraindication. The hemodynamic stress from uterine contractions and potential systemic effects of prostaglandins can exacerbate heart failure. While cautious use is possible in stable diabetes or Hepatitis B carriers, a decompensated cardiac condition poses a serious risk. Therefore, induction with misoprostol is typically avoided if the mother's heart disease is unstable.

48. (c) Cyproterone acetate

In women who are overweight and hirsute (signs of hyperandrogenism), combined oral contraceptives containing an anti-androgenic progestin help control androgenic symptoms. Cyproterone acetate has potent anti-androgenic effects, making it beneficial for hirsutism, acne, or PCOS. Other progestins (like norgestrel or norethisterone) do not specifically counter androgen-related problems to the same extent. Hence, an oral contraceptive with cyproterone acetate is preferred in these situations for both contraception and mitigating hyperandrogenism.

49. (d) Combined oral contraceptives

Immediately postpartum (within 6 weeks), combined oral contraceptives (COCs) are generally avoided in breastfeeding women because estrogen can reduce milk supply and slightly elevate the risk of thrombosis. Longer-acting reversible contraceptives like LNG-IUD (levonorgestrel intrauterine device), copper IUD (IUD-380A), and implants (e.g., Implanon) are recommended, since they do not negatively impact lactation to the same degree. After 6 weeks to 6 months postpartum, progestin-only

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or non-estrogen methods are typically preferred for continued breastfeeding.

50. (d) Protection against cervical cancer

Combined oral contraceptives have been found to lower the risk of ovarian and endometrial cancers, and their effect on thickening cervical mucus may help reduce the risk of pelvic inflammatory disease (PID). Some studies also suggest a reduced incidence of colorectal cancer with long-term use. However, they do not protect against cervical cancer; in fact, certain data link prolonged COC use with a slight increase in the risk of cervical neoplasia if human papillomavirus (HPV) infection is present.

51. (b) Vaginal hysterectomy with anterior and posterior colporrhaphy and McCall culdoplasty

For significant uterovaginal prolapse in a relatively young patient, a common, effective approach to reduce recurrence is vaginal hysterectomy combined with repair of any anterior/posterior vaginal wall defects (colporrhaphy) and a McCall culdoplasty to suspend or shorten the uterosacral ligaments and prevent future vault prolapse or enterocele. This comprehensive repair addresses both the uterus (by hysterectomy) and the vaginal supports (by colporrhaphy and culdoplasty), thereby giving better long-term support.

52. (b) Presence of HPV

When evaluating infertility, cervical mucus tests typically assess the mucus "ferning" pattern under the microscope, its spinnbarkeit (stretchiness), and cellular content (like leukocytes) to gauge estrogen effect and rule out infection. Screening specifically for HPV (human papillomavirus) is not part of a standard cervical mucus exam in infertility workups. HPV testing is more related to cervical dysplasia/cancer screening rather than checking mucus quality or ovulatory cyclic changes that affect fertility.

53. (b) Vaginal smear

Detecting ovulation often involves monitoring cervical mucus scoring (Insler score), serum estradiol peaks (which rise pre-ovulation), and especially urinary LH kits, which detect the luteinizing hormone surge just before ovulation. A routine "vaginal smear," however, is not a standard or reliable indicator of ovulation status; it may reflect general estrogenic effects but does not confirm that actual ovulation has occurred. Practitioners rely more on LH surge detection, ultrasound follicular monitoring, or mid-luteal progesterone levels for definitive ovulation assessment.

54. (d) Sildenafil

Endometriosis pain is typically managed by reducing ectopic endometrial growth and the associated inflammation. Options include:

1. Mirena (levonorgestrel intrauterine system) to deliver local progestin
2. Combined oral contraceptives to suppress ovulation and endometrial proliferation
3. Aromatase inhibitors (such as letrozole) for refractory cases.

Sildenafil (a phosphodiesterase-5 inhibitor for erectile dysfunction) is not a recognized standard therapy in endometriosis pain management. Therefore, it is the correct "except" (i.e., not used) among the listed choices.

55. (c) Incineration

Placenta is categorized as pathological/anatomical waste in hospital settings. Standard protocols require that such tissues be disposed of in a safe and hygienic manner to prevent biological hazards. In most guidelines, the placenta is placed in a designated biohazard bag (often yellow in many regions) and then incinerated under controlled conditions. Incineration at high temperatures destroys potentially infectious material. Simple autoclaving or microwaving is insufficient for complete disposal of larger biological tissues.

56. (a) 100% Centrally sponsored scheme

Janani Suraksha Yojana (JSY) is indeed aimed at promoting institutional deliveries through cash incentives, especially in low-performing states, and works actively through ASHA workers to connect pregnant women with healthcare services. While earlier it was often stated to be "fully" centrally sponsored, in practice there can be variations in cost sharing between the Central Government and individual states

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under the National Health Mission. Therefore, labeling it purely "100% centrally sponsored" in all contexts is the contentious statement among the listed features.

57. (b) From 24 hours to 7 days of delivery

According to standard guidelines, postpartum sterilization (tubal ligation) is ideally carried out after the initial recovery period—commonly from 24 hours after delivery and up to 7 days postpartum—provided the mother is hemodynamically stable and consents. Performing it too early (e.g., within 12 hours) may not allow sufficient stabilization. After 7 days, the uterus and pelvic tissues begin returning toward pre-pregnancy state, and sterilization is typically deferred until 6 weeks postpartum if not done within that first-week window.

58. (a) 200 mg of mifepristone on D_1 followed by 800 μg of misoprostol on D_3

For first-trimester medical abortion (up to 7 weeks), the widely accepted protocol is:

1. Day 1: 200 mg mifepristone orally
2. 36–48 hours later (often labeled Day 3): 800 μg misoprostol (route can be oral/vaginal).

Mifepristone blocks progesterone support to the pregnancy, while misoprostol induces uterine contractions. Variations exist globally, but this combination is recognized by both WHO and Indian guidelines as an effective regimen with high success rates for early pregnancy termination.

59. (b) Non-reassuring fetal heart rate pattern

One of the earliest and most frequent clinical indicators of uterine rupture (especially in a scarred uterus) is a sudden abnormal or non-reassuring fetal heart rate (FHR) tracing—such as prolonged decelerations or bradycardia. Uterine rupture compromises placental perfusion, causing immediate fetal distress. Although maternal signs (abdominal pain, tenderness, shock) can also occur, they often appear later. Hence continuous electronic fetal monitoring is critical in women attempting a trial of labor after cesarean (TOLAC).

60. (d) Mature cystic teratoma of ovary

CA-125 is most famously elevated in epithelial ovarian carcinoma but can also be mildly or moderately raised in other conditions affecting the peritoneum, such as endometriosis, pelvic inflammatory disease, or even tubercular ascites. In contrast, mature cystic teratomas (dermoid cysts) of the ovary are composed of differentiated tissue (hair, teeth, etc.) and typically do not elevate CA-125 levels significantly. They often remain asymptomatic or present with torsion but do not usually produce marked CA-125 changes.

61. (a) Endometriosis

Endometriosis often causes painful and sometimes heavier or prolonged menstrual bleeding. In contrast, tuberculosis of the endometrium, intrauterine adhesions (Asherman's syndrome), and lactation (breastfeeding) can each reduce menstrual flow or induce amenorrhea. Genital tuberculosis damages the endometrial lining; intrauterine scarring decreases the functional surface for menstruation; lactational amenorrhea suppresses gonadotropin release, reducing bleeding. Endometriosis, however, is more typically associated with dysmenorrhea and normal or increased flow, not diminished flow.

62. (d) Washing of private parts with antiseptics / disinfectants

A frothy, often greenish discharge and a "fishy" odor suggest Trichomonas vaginalis infection, though "fishy" odor is also classically described for bacterial vaginosis. Standard management includes metronidazole (or tinidazole) for the woman, and often concurrent partner treatment or condom use to prevent reinfection. Aggressive or routine use of antiseptic washes is not an "essential" element of therapy and can disrupt normal vaginal flora further. Targeted antimicrobial treatment plus partner management remains the key approach.

63. (b) the number of white cells increases

In the immediate postpartum period, women frequently experience leukocytosis. White blood cell (WBC) counts can rise to 20,000 cells/μL or more, partly due to physiological stress and the mobilization of leukocytes from storage

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sites. This elevated count can persist for a few days after delivery. It is a normal adaptation and not necessarily indicative of infection unless accompanied by other clinical signs. Eosinophils and lymphocytes do not specifically surge in this manner; rather, the total WBC count in general is elevated.

64. (d) Combined oral contraceptives

For a recently married couple desiring to defer pregnancy for about one year, combined oral contraceptive pills (COCs) are often ideal. They have high efficacy when used correctly, are easily discontinued whenever pregnancy is desired, and help regulate cycles. While condoms are useful for STI prevention, many couples find COCs more reliable for short-to-medium-term spacing. Intrauterine devices are excellent for longer durations; the safe period method is comparatively less reliable. Hence, COCs strike a good balance of safety and reversibility.

65. (d) Ovarian artery

The internal iliac (hypogastric) artery supplies pelvic structures via numerous branches, including the superior gluteal, inferior gluteal, internal pudendal, obturator, uterine, and others. The ovarian artery, however, arises directly from the abdominal aorta (below the renal arteries) and travels in the suspensory ligament of the ovary. It is therefore not a branch of the internal iliac artery.

66. (d) Reassurance

A small (3 cm) fibroid causing minimal symptoms—just mild cyclical pain—often does not require aggressive intervention. Many fibroids remain stable or even regress over time, especially nearing perimenopausal years when estrogen levels wane. Provided there is no significant menorrhagia, pressure symptoms, or rapid fibroid enlargement, conservative management is preferred. Regular follow-up to monitor any growth is sufficient. Hysterectomy or myomectomy is reserved for significant symptoms or complications; GnRH analogues can temporarily shrink fibroids but are not mandatory for mild pain.

67. (a) MRI

While transvaginal ultrasound (TVS) is a very practical first-line imaging tool for suspected adenomyosis, magnetic resonance imaging (MRI) provides more precise soft-tissue characterization and is considered the most accurate noninvasive modality. MRI can clearly delineate areas of ectopic endometrial glands within the myometrium and measure the junctional zone. Hysterosalpingography looks mainly at the uterine cavity and tubal patency, and PET-CT is not a routine modality for adenomyosis. Therefore, MRI is the gold standard among the listed options.

68. (a) Placental edge does not reach the internal os and remains 2 cm wide perimeter around the os

A "low-lying placenta" is diagnosed when the placental edge lies in the lower uterine segment but does not cover the cervical os and is typically within about 2 cm of the internal os on ultrasound. If the placenta partly or completely covers the internal os, it is classified as placenta praevia (option d). The definitions that mention 3 cm or 4 cm distances are not standard for labeling a placenta as low-lying.

69. (a) Arterial blood pressure

During normal pregnancy, cardiac output, blood volume, and red cell mass all increase. However, systemic vascular resistance falls, leading often to a slight decrease in blood pressure (especially diastolic) during the mid-trimester. Later in pregnancy, the BP may return to near prepregnancy levels, but on average, arterial BP is typically lower than the non-pregnant baseline, while the other parameters listed go up.

70. (b) Parenteral iron

With hemoglobin of 8 g/dL at 30 weeks, oral supplementation alone often proves insufficient because there is limited time to correct anemia before delivery. Parenteral (IV) iron therapy can rapidly replenish iron stores with fewer gastrointestinal side effects than oral iron. Packed RBC transfusion is usually reserved for hemoglobin levels critically low (e.g., <7 g/dL), significant hemodynamic compromise, or acute bleeding. Whole blood transfusion is rarely indicated purely for anemia correction.

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and most of the stomach are spared to maintain more normal gastric emptying. However, the distal bile duct, gallbladder, and head of pancreas are still resected. Thus, the "stomach" remains (or is only minimally resected at the duodenal junction) and is the structure not removed.

29. (c) Crypt abscess are common

Crohn's disease is a transmural inflammatory condition that can affect any segment of the gastrointestinal tract (from mouth to anus) and is well known for causing fistulas. However, "crypt abscesses" are more characteristic of ulcerative colitis. While Crohn's disease may display granulomas microscopically, crypt abscesses are typically described in UC. Crohn's hallmark is patchy, full-thickness inflammation that can produce skip lesions, strictures, and deep ulcerations but less commonly crypt abscesses.

30. (d) Level of consciousness

The Glasgow Coma Scale (GCS) was originally developed for head-injured patients, but it fundamentally quantifies level of consciousness based on eye-opening, verbal response, and motor response. Its utility extends beyond traumatic brain injury alone and can be applied to a range of clinical conditions to assess a patient's neurological status and monitor changes. Thus, it is more accurate to say it measures overall "level of consciousness" rather than being limited strictly to head trauma.

31. (d) Suxamethonium

Suxamethonium (succinylcholine) is the classic depolarizing neuromuscular blocker that has the fastest onset and shortest duration among commonly used muscle relaxants, making it ideal for rapid sequence intubation. It provides excellent intubating conditions within 45–60 seconds and typically lasts only a few minutes. Non-depolarizing agents like vecuronium, atracurium, or rocuronium generally have slower onset or longer duration, so suxamethonium remains the gold standard for urgent airway management unless contraindications (e.g., hyperkalemia risk) exist.

32. (b) Sub-mucous fibrosis

Areca nut (betel nut) chewing is strongly associated with oral submucous fibrosis, which presents with progressive fibrosis of the oral mucosa, leading to trismus (limited mouth opening) and reduced tongue mobility. Alcohol consumption may worsen overall oral health, but the classic finding in patients with areca/pan-masala habits is submucous fibrosis. Leukoplakia refers to white patches that do not scrape off, while chronic hyperplastic candidiasis and sideropenic dysphagia (Plummer-Vinson syndrome) have different clinical profiles.

33. (a) Aortoiliac occlusion

When a patient presents with claudication in the buttocks, hips, and thighs, plus erectile dysfunction, the classic triad suggests Leriche syndrome (aortoiliac occlusion). The blockage typically occurs at the distal aorta or iliac bifurcation, compromising blood flow to both lower extremities and pelvic organs. Impotence is a hallmark in men because of decreased blood flow to the internal iliac (hypogastric) arteries. More distal occlusions (e.g., femoral) generally cause claudication in the calves but do not typically include impotence.

34. (a) Serous wound discharge

A sudden onset of clear or serous fluid leaking from a postoperative wound often indicates fascial dehiscence beneath the skin closure. This "sentinel leak" can precede complete wound disruption ("burst abdomen"). Erythema and fever may suggest infection, and frank pus discharge indicates established infection. However, the earliest warning sign of mechanical failure of the abdominal closure is typically a serous or pinkish fluid discharge from the incision site. Prompt intervention may prevent a full dehiscence.

35. (a) Papillary carcinoma

Papillary carcinoma is by far the most common malignant tumor of the thyroid, accounting for approximately 70–80% of thyroid cancers. It typically has an excellent prognosis when caught early and often presents as a painless thyroid nodule. Follicular carcinoma is less common and tends to spread hematogenously. Hashimoto's thyroiditis is an autoimmune

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stabilize the endometrial lining and achieve hemostasis in acute, profuse uterine bleeding in perimenopausal women. Once bleeding is controlled, a diagnostic endometrial sampling (often via D&C) is performed to exclude hyperplasia or malignancy, and then progestogens (or combined regimens) may be used. Testosterone is not standard for uterine bleeding, and simple progestogens alone may not immediately control prolonged, heavy bleeding.

79. (b) Analgesics and antispasmodics

Primary dysmenorrhea is best managed initially with NSAIDs (e.g., mefenamic acid, ibuprofen) and/or mild antispasmodics, as these agents reduce prostaglandin-mediated uterine contractions and pain. Oral contraceptives may be employed if analgesics are inadequate or if contraception is also desired. Dilatation and curettage or presacral neurectomy are much more invasive and are reserved for refractory cases. First-line therapy is thus symptomatic relief with simple analgesics.

80. (a) Progestogen therapy

Simple endometrial hyperplasia without atypia typically responds well to high-dose or long-course progestogen therapy, which counteracts estrogenic overgrowth. Surgical options (e.g., hysterectomy) may be reserved for severe, recurrent, or atypical hyperplasia. GnRH analogues or combined pills can be considered in certain scenarios, but for perimenopausal women with simple hyperplasia and normal endometrial sampling, progestogens remain the first-line choice.

81. (a) 1 and 4

Primordial prevention aims to prevent the emergence of risk factors themselves (e.g., promoting healthy lifestyles, stress avoidance, public health education). That is different from primary prevention (which targets existing risk factors to prevent disease), secondary (screening for early detection), or tertiary (limiting disease complications). Hence "Health Education" and "Changing lifestyles to prevent stress" (items 1 and 4) align with primordial prevention. Treating hypertension (item 2) and screening for cervical cancer (item 3) are examples of primary or secondary prevention.

82. (a) Point prevalence rate

Prevalence can be expressed as "point" prevalence (the proportion of individuals with a condition at a specific instant in time) or "period" prevalence (over a specified time interval). When epidemiologists simply say "prevalence" without specifying, they generally refer to point prevalence. This is the most commonly cited measure for how widespread a disease is at one moment in time.

83. (a) A common single source for a short period

A sudden clustering of hepatitis A cases—especially if 60% present in one month—often indicates a single contaminated water or food source. When the exposure is limited to a few weeks, it is typically labeled a "common source outbreak" for a short period. Prolonged exposure would generate a longer tail in case distribution, while multiple sources usually cause a more scattered pattern of cases.

84. (d) All of these

Rheumatic heart disease (RHD) follows repeated or inadequately treated Group A streptococcal (GAS) pharyngitis. Key preventive measures include routine screening of schoolchildren for strep throat, rapid and complete antibiotic treatment of respiratory infections, and development of an effective streptococcal vaccine (though not yet widely available in routine programs). In principle, each measure helps reduce new and recurrent infections and thus diminishes the risk of rheumatic fever leading to RHD.

85. (d) endotoxin of the Bordetella organism

In the older "whole-cell" DPT vaccine, killed pertussis bacilli exert an adjuvant-like effect primarily through their endotoxin components (part of their cell wall). This endotoxin stimulates a more robust immune response, thereby enhancing antibody production not only against pertussis but also against the diphtheria toxoid given simultaneously. It is not the "exotoxin"

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71. (c) The formation of caput by vaginal examination

Standard clinical markers for monitoring labour progression include assessing contraction strength/frequency (abdominal palpation), fetal head descent (abdominal and sometimes vaginal assessment), and cervical dilation (vaginal examinations). While caput formation (swelling of the fetal scalp) may be noted, it is not a reliable or formal parameter to track normal progress. Caput can vary widely and does not necessarily correlate well with effective dilation or descent.

72. (c) Heart disease complicating pregnancy

Methylergometrine (Methergin) can cause vasoconstriction and an increase in blood pressure, posing added strain on a compromised cardiovascular system. In pregnant women with significant heart disease, prophylactic use of IV Methergin is generally contraindicated or approached with extreme caution to avoid exacerbating cardiac workload. Multiparity, hydramnios, or anemia alone are not strict contraindications, but any pre-existing cardiovascular pathology is a classic concern.

73. (d) Late deceleration

Late decelerations begin after the contraction has started and return to baseline well after the contraction ends. This pattern typically reflects uteroplacental insufficiency—i.e., inadequate oxygen delivery to the fetus—and is considered an ominous sign, often indicating fetal hypoxia. Early decelerations mirror uterine contractions (usually benign, signifying head compression), and variable decelerations often relate to cord compression. Persistent late decelerations call for urgent investigation and often prompt delivery if they do not resolve.

74. (a) Assessment of general condition of the patient, intravenous drip and reference to a hospital

Antepartum haemorrhage (e.g., placenta praevia or abruptio placentae) can be life-threatening. At a primary health centre, the immediate priorities are to stabilize the patient (check vitals, start IV fluids, arrange blood if possible) and quickly refer to a higher-level facility with obstetric/surgical expertise. Digital or speculum vaginal examinations are contraindicated if placenta praevia is suspected unless done under controlled conditions at a well-equipped facility. Vaginal packing is not recommended as it may worsen bleeding or trauma.

75. (a) Caesarean section

In a primigravida at term with a breech presentation not engaged and the cervix fully dilated, the safest course is typically Cesarean delivery, especially in modern obstetric practice. Breech extraction or traction maneuvers can endanger a fetus in a first-time mother if the breech is high, because the head could become entrapped. Oxytocin is not advisable for an unengaged breech at full dilation. Bringing down a leg is also risky. Therefore, C-section is the recommended approach.

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76. (d) History of post-partum psychosis

A prior history of postpartum psychosis is the strongest predictor of recurrence in subsequent pregnancies. While factors such as primiparity, unplanned pregnancy, or psychosocial stress can contribute, a personal or family history of severe perinatal mental illness markedly elevates the risk for postpartum psychosis. Close psychiatric/medical follow-up is crucial for women with a previous episode.

77. (c) Intracranial haemorrhage

In frank breech (where the fetus's hips are flexed and knees extended), the biggest threat is head entrapment during delivery, which can lead to intracranial hemorrhage or asphyxia. While cord prolapse and fetal injuries are possible, the most commonly cited cause of increased perinatal mortality with breech is trauma or hypoxia to the fetal head—particularly intracranial hemorrhage when the aftercoming head must be delivered through a partially contracted cervix.

78. (a) Conjugated equine oestrogens

High-dose estrogen therapy (e.g., IV or oral conjugated estrogens) can quickly

among men overall, though there is also a high incidence of head-and-neck cancers (including oral cavity) in certain regions due to tobacco chewing/smoking. Nevertheless, nationwide statistics consistently place lung cancer at or near the top for adult male malignancies. Cancers of the oropharynx, stomach, and colon are also frequent, but lung remains the leading site on an all-India basis.

94. (b) DPT

A severe adverse reaction, such as seizures/encephalopathy or neurologic compromise temporally associated with a previous whole-cell pertussis (DPT) vaccine, is a recognized contraindication for repeating the same "DPT" component. In such cases, the safer alternative is to switch to DT (Diphtheria-Tetanus) without the pertussis component, or to use an acellular pertussis formulation (DTaP) if available. Measles and Hepatitis B remain safe, whereas DPT is specifically contraindicated after serious neurologic events post-immunization.

95. (a) Severe mental retardation

Classic Turner syndrome (45,X) typically presents with short stature, a "webbed" neck, widely spaced nipples, gonadal dysgenesis (leading to delayed puberty), and possible cardiac/renal anomalies. However, most Turner syndrome patients have normal intelligence (though some can have specific learning difficulties). They do not typically exhibit "severe mental retardation," making option (a) the exception.

96. (b) Leukaemia

Benzol is another name for benzene, a solvent long recognized to cause bone marrow depression and increase the risk of hematological malignancies—most notably acute myeloid leukemia (AML). Chronic exposure to benzene is strongly linked to aplastic anemia and various myelodysplastic syndromes as well. It is not classically associated with lung cancer, COPD, or neurofibromas.

97. (b) Prospective genetic counselling

Prospective genetic counselling identifies couples at risk before marriage or conception. By informing them of carrier status, inheritance patterns, and risks to offspring, it can dissuade them from marrying or prompt them to use reproductive options that avoid an affected child. Retrospective counselling occurs after a child with a genetic disorder has been born, whereas legislation or broad health education alone rarely prevents carrier-carrier unions.

98. (d) Nutritional allowance

Under India's Employees' State Insurance (ESI) Act, insured persons are entitled to several benefits:

1. Medical care (for self and dependents)
2. Sickness benefit (cash compensation during certified illness)
3. Maternity benefit
4. Disablement benefit
5. Dependants' benefit
6. Funeral expenses
7. Rehabilitation (in certain contexts).

However, nutritional allowance is not one of the standard benefits provided under ESI, making it the correct "except."

99. (d) Documentary

Health-education methods can be classified into:

1. Individual approaches (one-on-one counseling),
2. Group approaches (lectures, demonstrations, group discussions, role play), and
3. Mass approaches (television, radio, posters, documentaries, social media).

While a documentary film can be shown to a group, in the classical classification it is generally considered a mass media method intended for a broad audience rather than an interactive small-group technique. Thus among the listed options, "documentary" is the one most often categorized under "mass approach."

100. (d) CD_4 cells less than or equal to 350 cells/mm^3

While the most recent WHO guidelines now recommend offering ART to all HIV-positive individuals regardless of CD_4 count ("test and treat"), many slightly older guidelines used

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(d) Radio frequency ablation

38. Which one of the following is given a score of two in Alvarado score?
(a) Rebound tenderness
(b) Anorexia
(c) Pyrexia
(d) Leukocytosis

39. Which one of the following parts of intussusception is susceptible for ischaemia and perforation?
(a) Intussuscipiens
(b) Intussusceptum
(c) Apex
(d) Neck

40. A 30 year old lady comes with history of bloody discharge from her right nipple while taking bath. On examination, there is a cystic swelling in the subareolar region. The clinical diagnosis would be:
(a) Duct ectasia
(b) Intraductal papilloma
(c) Fibrocystic disease
(d) Intraductal carcinoma

41. Match List I (sign) with List II (description) and select the correct answer using the code given below the lists:

	List I (sign)		**List II (description)**
A	Palmer's sign	1	Bluish coloration of vagina in pregnancy
B	Braxton Hicks sign	2	Rhythmic painless uterine contractions felt per abdomen in second trimester
C	Goodell's sign	3	Softening of cervix in pregnancy
D	Chadwick sign	4	Rhythmic uterine contractions felt in first trimester

Code:
(a) A-1 B-2 C-3 D-4
(b) A-4 B-2 C-3 D-1
(c) A-2 B-3 C-1 D-4
(d) A-3 B-2 C-1 D-4

42. HELLP syndrome includes the following except:
(a) Hemolysis
(b) Elevated liver enzymes
(c) Leucocytosis
(d) Low platelet count

43. Predisposing factors of puerperal sepsis are following except:
(a) Multiparity
(b) Repeated internal examinations specially in the case of premature rupture of membrane
(c) Cases of manual removal of placenta
(d) Placenta previa

44. Consider the following:
1. Fetal pulmonary hypoplasia
2. Fetal chromosomal anomalies
3. Prostaglandin synthetase inhibitors
4. Amniotic fluid index of 15 cm

Which of the above are associated with oligohydramnios?
(a) 1, 2 and 4
(b) 2, 3 and 4
(c) 1, 3 and 4
(d) 1, 2 and 3

45. Surgical treatment of choice for a 20 year old woman with nulliparous uterine prolapsed is:
(a) Vaginal hysterectomy with pelvic floor repair
(b) Abdominal hysterectomy with pelvic floor repair
(c) Sling surgery
(d) Le Forte's repair

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46. A 32 years old woman with two live children was brought to emergency with history of missed period for 15 days, spotting since 7 days and pain abdomen since 6 hours. Her pulse was 120 per minute, pallor ++, systolic B.P. 80 mm Hg. There was fullness and tenderness on per abdomen examination. Copper T thread was seen through

According to India's Biomedical Waste Management Rules (and many international standards), yellow bags typically contain infectious/pathological waste (organs, tissues, body fluids). Such waste is generally disposed of by incineration (or sometimes deep burial in very limited contexts). Red bag items may be autoclaved/microwaved for disinfection before recycling, and chemical treatment may apply to certain liquid wastes. But for the yellow category, incineration is the standard method to ensure complete destruction of potentially infectious material.

108. (d) Numbness

Heat-related illnesses commonly include:

1. Heat cramps (muscle spasms),
2. Heat syncope (fainting from vasodilation/volume depletion),
3. Heat exhaustion (weakness, dizziness, possible fainting), and
4. Heat stroke (hyperpyrexia $\geq$ 40 °C with CNS dysfunction).

Numbness (loss of sensation) is not classically described in heat stress syndromes. In a heat crisis, the main symptoms revolve around high body temperature, dehydration, electrolyte disturbances, and circulatory collapse rather than peripheral nerve dysfunction leading to numbness.

109. (c) Total deaths in that year

Proportional mortality rate (PMR) for a specific disease is defined as:

Hence the denominator is all-cause deaths in that population over the specified period—most commonly "total deaths in that year," not just the mid-year population or people at risk.

110. (a) Mean

Measures of central tendency (mean, median, mode) describe the typical or average value in a dataset, whereas measures of dispersion (range, mean deviation, variance, standard deviation) describe the spread or variability. The mean is a central tendency, not a measure of how data are scattered. Hence (a) is the correct "not a measure of dispersion."

111. (d) Cross sectional studies

In epidemiology, analytical studies typically aim to test hypotheses about exposure-outcome relationships—such as case-control and cohort designs (both observational) and randomized controlled trials (experimental). While some cross-sectional surveys can measure associations, cross-sectional designs are most often classified as descriptive because they capture "snapshot" prevalence data at a single point in time. They do not robustly establish temporality needed for causal inferences, thus typically excluded from the classic "analytical" category in many textbooks.

112. (b) Gestational diabetes is always transient and cured after delivery.

Gestational diabetes mellitus (GDM) often resolves postpartum but can persist or predispose the mother to future type 2 diabetes. It also increases the risk of metabolic issues in offspring. Therefore, it is incorrect to claim it is "always transient" and definitively "cured" after delivery; some women remain hyperglycemic or develop type 2 diabetes later. Screening during pregnancy is essential.

113. (d) 10 years

A Cu-T 380A (Copper T 380A) intrauterine contraceptive device typically remains highly effective for up to 10 years. While earlier versions had shorter lifespans (e.g., 5 years), the "380A" variant has copper bands that reliably release enough copper ions for a full decade. If a woman desires continued contraception beyond that time, the IUCD must be replaced with a new device.

114. (d) 2 and 3 only

Linoleic acid (an omega-6 polyunsaturated fatty acid) is abundant in groundnut (peanut) oil and mustard oil, both containing significant proportions of polyunsaturates. Coconut oil, on the other hand, is predominantly saturated (rich in lauric acid) and offers only minimal linoleic acid. Hence among these options, groundnut and mustard oils are recognized as better sources of linoleic acid.

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115. (d) Case management for DF and DHF, isolation and individual protection from mosquitoes and environmental measures for elimination of breeding places

Effective dengue control relies on:

1. Case management of dengue fever (DF) and dengue hemorrhagic fever (DHF) to reduce mortality.
2. Isolation and individual protection (bed nets, repellents) to prevent further mosquito bites from infected patients.
3. Environmental measures to eliminate Aedes breeding sites (stagnant water, containers).

While a few dengue vaccines exist, they are not part of standard public programs in most settings. Thus the comprehensive strategy is: manage cases, protect from bites, and target vector breeding.

116. (c) Resistant to INH and Rifampicin with or without resistant to other anti TB drugs

MDR-TB (multi-drug resistant TB) is defined as a Mycobacterium tuberculosis strain that is resistant to at least isoniazid (INH) and rifampicin, the two most potent first-line anti-TB drugs. Such strains may also be resistant to other first-line drugs (like ethambutol or streptomycin) but the key hallmark of MDR-TB is dual resistance to INH and rifampicin, which substantially complicates treatment and requires second-line regimens.

117. (d) 1, 4, 5, 7

Screening tests are typically administered to healthy or asymptomatic individuals (point 1), tend to be less accurate than definitive diagnostic tests (point 4), usually designed to be less expensive (point 5), and serve as an initial filter rather than a direct basis for treatment (point 7). Persons who screen positive are then referred for more precise, confirmatory diagnostics. Thus "1, 4, 5, and 7" accurately capture the standard features of screening tests.

118. (d) National Programme for prevention and control of Cancer, Diabetes, Cardiovascular diseases and Stroke

During the 11th Five Year Plan (2007–2012), India launched the "National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke" (often abbreviated NPCDCS). The program aimed to tackle the rising burden of non-communicable diseases through early detection, health promotion, and capacity building at various healthcare levels. Earlier programs had narrower scopes (e.g., individual cancer control), but NPCDCS integrated multiple chronic diseases under one framework for comprehensive prevention and management.

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119. (b) When prevalence in high risk groups is more than 5%, and 1% or more in antenatal women

In India's AIDS surveillance, a state is designated "high prevalence" if HIV prevalence among high-risk groups (e.g., female sex workers, IV drug users, MSM) exceeds 5% and antenatal clinic prevalence is ≥1%. This threshold signals a generalized spread beyond high-risk populations into the general population, necessitating intensified interventions. Option (b) fits the standard definition used by NACO (National AIDS Control Organization).

120. (d) 1, 3, and 5

1. Yellow fever (1) is transmitted by Aedes aegypti mosquitoes.
2. Chikungunya fever (3) is transmitted by Aedes mosquitoes.
3. Japanese encephalitis (5) is transmitted by Culex mosquitoes.
4. Q fever (2) is caused by Coxiella burnetii (mainly inhalation, not mosquitoes).
5. Relapsing fever (4) can be tick- or louse-borne (Borrelia species), not typically mosquito.
6. Sleeping sickness (6) is transmitted by the tsetse fly (Glossina).

Hence the mosquito-borne diseases among the listed are 1, 3, and 5.

END

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a threshold of CD_4 ≤350 cells/mm³. This question appears to reflect that intermediate era of recommendations. Initiating ART by or before the CD_4 count falls below 350 cells/mm³ was shown to reduce morbidity, mortality, and transmission. Thus among the options given, "≤350 cells/mm³" is the correct threshold.

101. (b) Provision of specialist services at Primary Health Centres

Primary Health Care, as outlined in the Alma-Ata Declaration, rests on key pillars such as equitable distribution, community participation, intersectoral coordination, and appropriate technology. It focuses on basic, essential health services accessible to all. Specialist services at PHC level are not typically a core principle, because PHCs mainly provide primary (not specialty) care. Referral mechanisms exist if specialist intervention is required.

102. (a) Cost effectiveness analysis

Cost-effectiveness analysis (CEA) is a quantitative economic evaluation tool that compares the relative costs and outcomes (effects) of different courses of action. It is frequently used in health management to decide how best to allocate limited resources for maximum benefit. Human resource management, communication management, and leadership are crucial qualitative or strategic processes but are not usually framed as "quantitative" methods.

103. (d) All of these

Reducing under-five ARI mortality demands a comprehensive approach:

1. Timely case management (early detection and appropriate antibiotic or supportive therapy).
2. Health education on recognition of danger signs, hygiene, and care-seeking.
3. Vaccination (e.g., against measles, pertussis, pneumococcal infections, H. influenzae).
4. Nutritional interventions (addressing malnutrition, ensuring breastfeeding, vitamin A for immune support).

All of these interventions in combination can significantly curb the incidence and severity of ARI.

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104. (c) Provision of accident and emergency care

Indian Public Health Standards (IPHS) for PHCs focus on delivering comprehensive primary healthcare (including preventive, promotive, curative, and certain emergency services), ensuring quality of care, and making services responsive to community needs. While minor emergencies might be handled, full-fledged accident and trauma care is generally beyond a PHC's typical scope. Severe trauma usually requires a higher-level facility (CHC/district hospital). Thus, major "accident and emergency care" is not among the core IPHS objectives for primary health centers.

105. (a) ACT only

Current Indian guidelines recommend Artemisinin-based Combination Therapy (ACT) for P. falciparum malaria in the second and third trimesters of pregnancy. Primaquine is contraindicated in pregnancy due to potential hemolytic risk to the fetus (G6PD concerns). Although chloroquine is first-line for chloroquine-sensitive strains, Falciparum often shows resistance, and in the late pregnancy months, ACT is both safe and effective. Quinine is reserved mainly for first trimester, or where ACT is not available.

106. (b) Phenylketonuria

Phenylketonuria (PKU) is an autosomal recessive metabolic disorder characterized by a deficiency of phenylalanine hydroxylase. Elevated phenylalanine levels become neurotoxic if untreated, leading to intellectual disability and neurodevelopmental delays. Haemophilia affects coagulation, cystic fibrosis involves a defect in the CFTR channel, and sickle cell disease affects hemoglobin. Although these can cause other serious morbidities, they do not typically cause mental retardation unless secondary complications ensue. PKU is well known for its direct impact on neurocognitive development.

107. (c) Incineration

8. Match List I (Condition) with List II (Presentation) and select the correct answer using the code given below the lists

	List I (Condition)		**List II (Presentation)**
A	Caroli's disease	1	Abdominal pain, Biliary sepsis
B	Budd-Chiari Syndrome	2	Hepatomegaly, Pain
C	Polycystic Liver Disease	3	Ascites
D	Primary sclerosing cholangitis	4	Abdominal Liver Function Test (LFT) or jaundice

Code:
(a) A-1 B-3 C-2 D-4
(b) A-3 B-2 C-4 D-1
(c) A-4 B-3 C-2 D-1
(d) A-1 B-2 C-3 D-4

9. Treatment of choice for annular pancreas is
(a) Resection
(b) Duodenoduodenostomy
(c) Gastrojejunostomy
(d) Pyloromyotomy

10. In a patient of gastric outlet obstruction nutritional support is best delivered by:
(a) Enteral nutrition by Ryles tube
(b) Gastrostomy
(c) Jejunostomy
(d) Parenteral nutrition

11. The following nerves are blocked for repairing inguinal hernia by local anaesthetic except:
(a) Ilio-inguinal
(b) Ilio-hypogastric
(c) Genito femoral
(d) Femoral

12. Consider the following statements:
Venacaval opening of the diaphragm, situated at the level of T_8 transmits
1. inferior vena cava
2. vagus nerve
3. branches of the right phrenic nerve
4. thoracic duct

Which of the statements given above are correct?
(a) 1 and 2
(b) 2 and 3
(c) 1 and 3
(d) 1 and 4

13. Traumatic haemothorax is best managed by:
(a) Intercostal tube drainage
(b) Open drainage
(c) Aspiration of blood from pleural cavity
(d) Use of streptokinase

14. Which of the following statements about mesh skin grafts is not correct?
(a) They permit coverage of large areas.
(b) They allow egress of fluid collections under the graft.
(c) They contract to the same degree as a grafted sheet of skin.
(d) They 'take' satisfactorily on granulating bed.

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15. An 8 year old girl sustained a fall on the outstretched right hand 6 hours ago and was treated with egg albumen bandages by a village bone setter. She presented with gross swelling of the right elbow and forearm. The first essential intervention in this case would be to
(a) order urgent radiographs of both elbows.
(b) immerse the hand in warm water to increase the circulation.
(c) elevate the right hand.
(d) completely remove all encircling bandages.

16. Sprain of the ankle joint results from an injury to:
(a) Deltoid ligament
(b) Spring Ligament
(c) Posterior talofibular ligament
(d) Anterior talofibular ligament

17. Which of the following are the most common forms of cardiac tumors seen in clinical practice ?
(a) Rhabdomyosarcoma
(b) Angiosarcoma

QUESTION PAPER 2014

1. A 40 year old man presented with a flat 1 × 1 cm scaly, itchy black mole on the front of thigh. Examination did not reveal any inguinal lymphodenopathy. The best course of management would be:
   (a) FNAC of lesion
   (b) Incision biopsy
   (c) Excision biopsy
   (d) Wide excision with inguinal lymphadenectomy.

2. Indications of TURP for Benign Hyperplasia Prostate (BHP) include
   1. Urinary flow rate of less than 10cc/second
   2. Residual volume of urine >100cc
   3. Serum level of prostatic specific antigen >10nmol/L
   4. Trabeculated Urinary bladder

   Select the correct answer using the code given below:
   (a) 1, 2 and 3
   (b) 2, 3 and 4
   (c) 1, 2 and 4
   (d) 1, 3 and 4

3. Ankyloglossia in a patient with carcinoma tongue is staged as
   (a) T1
   (b) T2
   (c) T3
   (d) T4

4. Which is the most commonly used chemotherapy regimen in the adjuvant treatment following modified radical mastectomy in the estrogen receptor negative 35 year old female with breast cancer?
   (a) Cyclophosphamide + 5 – Fluro-uracil
   (b) Cyclophosphamide + Methotrexate + 5 – Fluoro-uracil
   (c) Cyclophosphamide + Adriamycin + 5– Fluro-uracil
   (d) Adriamycin + 5–Fluro-uracil

5. Consider the following statements:
   The clinical features of tension pneumothorax include
   1. tracheal shift to contralateral side
   2. absent breath sounds on the affected side
   3. low output circulatory failure
   4. peripheral cyanosis

   Which of the statements given above is/are correct?
   (a) 1, 2 and 3
   (b) 1 and 3 only
   (c) 2 and 4
   (d) 1 and 4

6. The following procedures are recommended for palliation in a patient with obstructive jaundice due to unresectable carcinoma of head of pancreas except:
   (a) Choledochoduodenostomy with gastrojejunostomy
   (b) Choledochoduodenostomy, gastrojejunostomy with pancreaticojejunostomy
   (c) Hepaticojejunostomy with gastrojejunostomy
   (d) Cholecystojejunostomy with jejunojejunostomy with gastrojejunostomy

7. Which of the following are contraindications to salvaging accidentally injured spleen during operation?
   1. Labile blood pressure
   2. Presence of intraperitoneal infection
   3. Pre-existing splenic disease
   4. Age below 50 years

   Select the correct answer using the code given below:
   (a) 1, 2 and 3
   (b) 1, 2 and 4
   (c) 2, 3 and 4
   (d) 1, 3 and 4

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27. A 52 year old male patient comes with history of rectal bleeding, alteration in bowel habits and tenesmus. The ideal investigation would be:
(a) Motion for occult blood
(b) Contrast enhance CT scan
(c) Colonoscopy
(d) Ultrasonogram

28. What is the treatment of choice in a patient with Crohn's case, where inflamed appendix was found on exploration?
(a) Appendectomy
(b) Ileo–colic resection and anastomosis
(c) Closing the abdomen and starting medical treatment
(d) None of the above

29. In an unconscious patient with multiple injuries, what is the best and reliable modality for assessment of cervical spine injury?
(a) Full AP and lateral radiographs of spine
(b) MRI scan
(c) While doing CT scan of brain take extra cuts at the cervical spine region
(d) Rely only on clinical examination

30. The following are features of hypovolemic shock except:
(a) Oliguria
(b) Bradycardia
(c) Low Blood Pressure
(d) Acidosis

31. A 45 year old man sustains trauma in a road traffic accident and develops engorgement of neck veins, pallor, rapid pulse rate, and chest pain. What is the most likely diagnosis?
(a) Pulmonary laceration
(b) Cardiac tamponade
(c) Haemothorax
(d) Rupture of spleen

32. Which one of the following statements is not correct regarding trichobezoar (hair balls)?
(a) It is more common in females.
(b) It is associated usually with psychiatric illness.
(c) It is more common in young.
(d) It is usually associated with pyloric stenosis.

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33. Consider the following conditions:
1. Otitis media
2. Speech problems
3. Dentition abnormalities
Which of the above is/are associated with cleft palate?
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

34. On second day following femoral embolectomy, the leg is found to be tender, tense and dusky with feeble dorsalis pedis. The most appropriate management would be:
(a) Doing re-embolectomy
(b) Fasciotomy
(c) Dye studies
(d) Anticoagulant therapy

35. An air fluid level with dilated oesophagus and 'bird beak' appearance in a barium swallow is diagnostic of:
(a) Achalasia cardia
(b) Carcinoma oesophagus
(c) Hiatus hernia
(d) Barrett's oesophagus

36. A colonic carcinoma involving muscularis propria, with one or two nodes involved with a solitary metastasis in the liver, the TNM stage would be:
(a) $T_2 N_1 M_1$
(b) $T_1 N_2 M_1$
(c) $T_2 N_2 M_1$
(d) $T_1 N_1 M_1$

37. After undergoing surgery for carcinoma of colon, a patient developed single liver metastasis of 2 cm. What would be the next treatment?
(a) Resection
(b) Chemo-radiation
(c) Acetic acid injection

(c) Myxoma
(d) Lymphoma

18. The following operative procedure can result in neurogenic voiding dysfunction except:
(a) Radical hysterectomy
(b) Ureterolithotomy
(c) Abdominoperineal resection
(d) Retroperitoneal lymph node dissection

19. In diabetes mellitus the following findings are seen in ophthalmoscopy except:
(a) Dot haemorrhage
(b) Flame shaped haemorrhage
(c) Wet sponge haemorrhage
(d) Microaneurysm

20. Consider the following structures in the femoral triangle:
1. Femoral canal
2. Femoral Nerve
3. Femoral artery
4. Femoral vein

What is the correct sequence of the above from medial to lateral ?
(a) 1, 2, 3, 4
(b) 4, 3, 1, 2
(c) 1, 4, 3, 2
(d) 3, 4, 2, 1

21. A female patient aged 30 years with bilateral conductive deafness is wearing a hearing aid. What is the probable diagnosis?
(a) Presbycusis
(b) Chronic suppurative otitis media
(c) Meniere's disease
(d) Otosclerosis

22. Match List I (Operative procedure) with List II (Complication) and select the correct answer using the code given below the lists:

	List I (Operative procedure)		**List II (Complication)**
A	Highly selective vagotomy	1	Metabolic bone disease
B	Vagotomy with Gastrojejunostomy	2	Post Prandial gas bloat
C	Subtotal Gastrectomy	3	Lesser curve necrosis
D	Nissen's Fundoplication	4	Diarrhea

Code:
(a) A-2 B-1 C-4 D-3
(b) A-3 B-4 C-1 D-2
(c) A-2 B-4 C-1 D-3
(d) A-3 B-1 C-4 D-2

23. Which of the following pairs is not correctly matched?
(a) Krukenberg tumour ..... Peritoneal seeding involving ovaries
(b) Blumer's shelf ..... Secondary deposits in pelvic cul-de-sac
(c) Virchow's node ..... Palpable node in left supraclavicular space
(d) Sister Joseph's nodule ..... Solitary secondary deposit in the liver

24. Optimum age for surgery for a child with cleft lip is:
(a) 4 weeks
(b) 4 - 6 weeks
(c) 3 - 6 months
(d) 6 -18 months

25. An electrical contact burn is considered to be:
(a) Superficial partial thickness burn
(b) Full thickness burn
(c) Deep partial thickness burn
(d) Superficial scalding with blisters

26. In a fracture of shaft of longbone, the component which contributes least in fracture healing is:
(a) Blood vessels
(b) Periosteum
(c) Matrix
(d) Endosteum

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external os on speculum examination. On p/v examination, cervical movements were tender, uterus was anteverted, bulky and soft. There was fullness in pouch of Douglas. Most likely, she is suffering from:
(a) Pelvic inflammatory disease
(b) Missed abortion with infection
(c) Ruptured ectopic pregnancy
(d) Threatened abortion

47. A 20 year old primigravida is admitted with full term pregnancy and labour pains. At 4 A.M. she goes into active phase of labour with 4 cm cervical dilatation. Membranes rupture during p/v examination showing clear liquor. A repeat p/v after 4 hours of good uterine contractions reveals a cervical dilatation of 5 cm. What should be the next step in management?
(a) Reassess after 4 hours
(b) Immediate caesarean section
(c) Oxytocin drip
(d) Reassess for occipitoposterior position and cephalopelvic disproportion

48. Immediately after third stage of labour in a case of full term delivery, the fundus of the uterus is:
(a) At the level of xiphisternum
(b) At the level of umbilicus
(c) Below the level of umbilicus
(d) Just above the symphysis pubis

49. Which one of the following is not a complication of shoulder dystocia?
(a) Laceration of the birth canal
(b) Postpartum haemorrhage
(c) Facial palsy
(d) Brachial plexus palsy

50. Which of the following methods for induction of labour should not be used in the patient with previous lower segment caesarean section?
(a) Vaginal prostaglandin gel
(b) Oral prostaglandin tablet
(c) Stripping of the membrane
(d) Oxytocin drip

51. The causes for subinvolution of uterus are the following except:
(a) Multiple pregnancy
(b) Pelvic infection
(c) Established breast feeding
(d) Retained placental fragments

52. Oxytocin is not responsible for:
(a) Milk production
(b) Uterine involution
(c) After pains
(d) Milk ejection

53. Treatment of choice in a 28 year old nullipara with third degree cervical descent is:
(a) Vaginal hysterectomy with PFR
(b) Abdominal cervicopexy
(c) Fothergill's repair
(d) Anterior and posterior colporrhaphy

54. A $G_2P_1A_0$ presents with full term pregnancy with transverse lie in the first stage of labour. On examination, cervix is 5 cm dilated, membranes are intact and foetal heart sounds are regular. The appropriate management would be:
(a) Wait for spontaneous ovulation and expulsion
(b) External cephalic version
(c) Internal podalic version
(d) Caesarean section

55. Absolute contraindication for the use of OCPs is:
(a) Thromboembolism
(b) Hypertension
(c) Diabetes
(d) Epilepsy

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56. Cephalhematomas are most commonly found over:
(a) Frontal bone
(b) Temporal bone
(c) Parietal bone
(d) Occipital bone

B	Placental delivery	2	Decapitation
C	Extended arms of breech at delivery	3	Brandt Andrew's procedure
D	Deep transverse arrest	4	Vacuum extraction

Code:
(a) A-2 B-3 C-1 D-4
(b) A-2 B-1 C-3 D-4
(c) A-4 B-3 C-1 D-2
(d) A-4 B-1 C-3 D-2

81. The example of de-professionalization of medicine is widely seen in India in the form of:
(a) Rural internship by doctors
(b) Providing Primary Health Care
(c) Irrational use of antibiotics by doctors
(d) Medical malpractice by doctors

82. Consider the following:
1. Literacy rate
2. Life expectancy at birth
3. Life expectancy at the age of one year
4. Infant mortality

Which of the above are the components of Physical Quality of Life Index (P.Q.L.I.)?
(a) 1 and 2
(b) 1, 3 and 4
(c) 2 and 4
(d) 1 and 4 only

83. Which one of the following is included in Indian Public Health Standards for a Primary Health Centre?
(a) Manual removal of placenta
(b) Blood storage facility
(c) Surgery for hydrocele
(d) Safe abortion services

84. Which one of the following substances induces no dependence?
(a) Barbiturates
(b) Cannabis
(c) Heroin
(d) LSD

85. The pattern of disease in a community described in terms of the important factors which influence its occurrence is known as:
(a) Experimental epidemiology.
(b) Confounding
(c) Iceberg phenomenon
(d) Community diagnosis

86. The term 'disease control' describes the ongoing operations aimed at reducing all of the following, except:
(a) The incidence of disease
(b) The financial burden to the community
(c) Virulence of the disease agent
(d) Prevention of complications

87. The relationship between birth rate and maternal hemoglobin is best studied by:
(a) Standard error of difference between two means.
(b) Standard error of difference between two proportions.
(c) Correlation and regression.
(d) Sensitivity and specificity.

88. Beta oxalyl amino alanine (BOAA) is found in:
(a) Argemone mexicana
(b) Lathyrus sativus
(c) Aspergillus flavus
(d) Crotolaria medicagenia

89. Due to which of the following does seasonal trend of a disease occur?
1. Vector variation
2. Environmental factors
3. Change in herd community

Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

90. Excessive nitrates in drinking water can produce:
(a) Hypochromic microcytic anemia.
(b) Methaemoglobinaemia.
(c) Polycythemia vera.

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69. A $G_6P_5L_5$ with 4½ months amenorrhea comes to you requesting a medical termination of pregnancy after sex determination. Then,
(a) you will do the termination because continuation of pregnancy will affect the mental health of the patient and it is a clause in the M.T.P. Act.
(b) you will consult another medical practitioner because it is a mid-trimester pregnancy.
(c) you will do both (a) and (b) above.
(d) you will not do it, as it is against the law.

70. Which one of the following is the safest gas for creating pneumoperitoneum in operative laparoscopy?
(a) Oxygen
(b) Carbon monoxide
(c) Carbon dioxide
(d) Nitrous oxide

71. Which one of the following causes the greatest risk of ectopic pregnancy?
(a) Previous normal delivery
(b) Intrauterine contraceptive devices use
(c) Previous ectopic pregnancy
(d) Previous medical termination of pregnancy

72. Face to pubes delivery occurs in which of the foetal position?
(a) Mentoanterior
(b) Mentoposterior
(c) Occipito-sacral
(d) Brow presentation

73. The peak level of human chorionic gonadotropin in normal pregnancy occurs between:
(a) 10 to 12 days after pregnancy
(b) 30 to 40 days after pregnancy
(c) 60 to 70 days after pregnancy
(d) 100 to 120 days after pregnancy

74. The second most common site for endometriosis after ovary is the:
(a) Outer surface of uterus
(b) Peritonium of the pouch of Douglas
(c) Round ligaments
(d) Fallopian tubes

75. A patient who just delivered at home presents with a third degree perineal tear. You will do the repair:
(a) immediately
(b) after 24 hours.
(c) after 6 weeks
(d) after 3 months

76. The gestational sac is first visible on transvaginal USG by:
(a) 30 days
(b) 35 days
(c) 42 days
(d) 49 days

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77. A 30 years old housewife reports with 6 months amenorrhea. Her serum LH and FSH are high with low estradiol levels. What is the most likely cause of amenorrhea in this context?
(a) Pituitary tumour
(b) Polycystic ovarian disease
(c) Exercise induced
(d) Premature menopause

78. Branches of anterior division of internal iliac artery include the following except:
(a) Uterine artery
(b) Inferior vesical
(c) Inferior gluteal
(d) Superior gluteal

79. The pearl index of contraceptive failure is expressed as a rate per
(a) 1 woman-year
(b) 10 women-years
(c) 100 women-years
(d) 1000 women-years

80. Match List I with List II and select the correct answer using the code given below the lists:

	List I (Condition)		**List II (Procedure)**
A	Hand prolapse	1	Lovset technique

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1. (c) Excision biopsy

For a suspicious pigmented lesion, the recommended initial step is an excisional biopsy with narrow margins. This approach not only removes the lesion but also provides a complete specimen for accurate histopathological evaluation of depth (Breslow thickness) and other important features. If melanoma is confirmed, further surgical management (including wider excision margins and possible sentinel lymph node biopsy) may be indicated. In the absence of palpable lymph nodes, a full lymph node dissection (option d) is not routinely performed.

2. (c) 1, 2 and 4

Common indications for transurethral resection of the prostate (TURP) in benign prostatic hyperplasia (BPH) focus on bothersome obstructive symptoms and evidence of poor bladder emptying. A decreased urinary flow rate (less than 10 mL/second), a substantial post-void residual urine volume (greater than 100 mL), and structural bladder changes such as trabeculation (indicative of chronic obstruction) all strengthen the case for surgical intervention. An elevated PSA alone does not constitute a standard indication for TURP without further evaluation for malignancy.

3. (d) T4

In the context of tongue cancer, "ankyloglossia" in clinical descriptions usually refers to fixation of the tongue caused by deep infiltration of tumor into the underlying musculature or surrounding structures. According to TNM staging of oral cancers, significant infiltration leading to restricted mobility of the tongue is considered locally advanced disease. T4 lesions invade deep extrinsic muscles or adjacent anatomical structures, explaining why ankyloglossia in carcinoma tongue is appropriately classified as T4.

4. (c) Cyclophosphamide + Adriamycin + 5–Fluro-uracil

Anthracycline-based combinations (e.g., Cyclophosphamide, Adriamycin/Doxorubicin, and 5-FU) have become standard adjuvant regimens in managing breast cancer, particularly in younger, estrogen receptor–negative patients. This combination (often referred to as CAF or FAC) has been shown to improve disease-free and overall survival. While CMF (Cyclophosphamide, Methotrexate, and 5-FU) was historically used, anthracyclines have proven more effective for many high-risk or aggressive tumors. Adding Adriamycin helps enhance cytotoxic effectiveness, making this regimen a common choice in modern breast cancer therapy.

5. (a) 1, 2 and 3

In tension pneumothorax, air trapped in the pleural space shifts the mediastinum, causing tracheal deviation to the opposite side (1). The affected side loses ventilation, so breath sounds are absent (2). The severe increase in intrathoracic pressure compromises venous return to the heart, leading to hypotension and "low output circulatory failure" (3). Peripheral cyanosis can occur in severe cases, but it is not as classic a feature as the others.

6. (b) Choledochoduodenostomy, gastrojejunostomy with pancreaticojejunostomy

In an unresectable pancreatic head cancer, biliary and gastric bypasses aim to relieve obstructive jaundice and prevent or manage gastric outlet obstruction. Common palliative options include hepaticojejunostomy, choledochoduodenostomy, or cholecystojejunostomy combined with gastrojejunostomy. However, creating a pancreaticojejunostomy is typically reserved for chronic pancreatitis drainage or anastomosis after resection, not for palliating malignant obstruction in the head of pancreas. Thus,

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(d) Hemophilia.

91. Calcium content of milk is lowest in the milk of:
(a) Human
(b) Goat
(c) Cow
(d) Buffalo

92. What is the time limit for registration of a birth?
(a) 7 days
(b) 14 days
(c) 21 days
(d) 3 days

93. The following statements are correct for healthful school environment except:
(a) In the classroom, desks should be of minus type.
(b) Per capita space for each student should be 6 sq. feet.
(c) Combined window and door area should be 25% of the floor space.
(d) One urinal should be provided for 60 students.

94. The following are the indicators for assessing the sensitivity of surveillance of polio except:
(a) A minimum of one case of AFP per 100,000 children under 15 years of age detected per year
(b) A minimum of one case of AFP per 100,000 children under 5 years of age detected per year
(c) At least 80% of the reporting sites should report each month even in the absence of cases
(d) Percentage of AFP cases with 2 stools taken within 2 weeks after paralysis onset $\geq$ 80%

95. Tuberculosis in HIV positive individuals is characterized by which of the following?
1. More frequent negative sputum smears.
2. More false–negative tuberculin test results.
3. More extra–pulmonary tuberculosis.
4. More cavitating lesions in lungs as shown by chest X-ray.

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 3 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

96. Consider the following features of cholera:
1. Onset with purging.
2. No nausea or retching.
3. No tenesmus.
4. Leukocytosis.

Which of the above features of cholera differentiate it from food poisoning?
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 2, 3 and 4

97. What is the most important test to assess the prevalence of tuberculosis infection in a community?
(a) Mass miniature radiography
(b) Tuberculin test
(c) Sputum examination of AFB
(d) Clinical examination

98. With which one of the following respiratory lesions is smoking not associated?
(a) Chronic bronchitis
(b) Emphysema
(c) Sarcoidosis
(d) Lung carcinoma

99. In a normal curve, the area between one standard deviation on either side of the mean will include:
(a) Less than 50% of the values
(b) Approximately 68% of the values
(c) 70 – 85% of the values
(d) 95% of the values

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100. Match List I (Health education methods) with List II (Characteristics) and select the correct answer using the code given below the lists:

	List I (Health education methods)		**List II (Characteristics)**
A	Symposium	1	Situation is dramatized
B	Panel discussion	2	Arriving at a plan of action to solve the problem
C	Work-shop	3	Series of speeches on a selected subject
D	Role-play	4	Discussion among the speakers

Code:
(a) A-3 B-4 C-2 D-1
(b) A-3 B-2 C-4 D-1
(c) A-1 B-2 C-4 D-3
(d) A-1 B-4 C-2 D-3

101. Which of the following insecticides is not used as a larvicide?
(a) Abate
(b) Paris green
(c) Fenthion
(d) Dichlorvos

102. An outbreak of Viral Hepatitis was reported from a town between June and August of a particular year. 60% of cases occurred in July. Exposure of the community to infection is from:
(a) A single source for a short period.
(b) A common single source for prolonged periods.
(c) Multiple sources for a short period.
(d) Multiple sources over prolonged periods.

103. A rapid mass screening method that can be used by a paramedical worker for detecting malnutrition in pre-school (age: 1 to 5 years) children is:
(a) Weight for age
(b) Height for age
(c) Mid–arm circumference
(d) Weight for height

104. Among the following which one is the most important determinant of infant mortality?
(a) Birth weight
(b) Age of the mother
(c) Order of birth
(d) Interval between births

105. Which one of the following indicators is not included in Millennium Development Goals?
(a) Maternal mortality ratio
(b) Under five mortality rate
(c) Malaria death rate per 100,000 children (0 – 4 years of age)
(d) T.B. death rate per 100,000 children (0 – 4 years of age)

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106. Severity of a disease is measured by:
(a) Relative risk
(b) Attributable risk
(c) Incidence rate
(d) Case fatality rate

107. 'Spot map' in epidemiological studies refer to variation in the distribution of a disease at:
(a) International level
(b) National level
(c) Rural – urban level
(d) Local level

108. Which of the following is an example of 'live attenuated vaccine'?
(a) D.P.T.
(b) B.C.G.
(c) Hepatitis 'B'
(d) Typhoid (TAB)

109. Specificity of a test is =
(a) (True positives X 100) / (True positives + False negatives) %
(b) (True negatives X 100) / (True negatives + False positives) %
(c) (True negatives X 100) / (True positives + True negatives) %
(d) (True positives X 100) / (True negatives + False positives) %

110. With reference to historical cohort study, which of the following statements is not correct?
(a) Outcomes have occurred before the start of the investigation.
(b) Experience of cohort is assessed from existing records.
(c) Duration of study is shorter as compared to current cohort study.
(d) Control subjects are selected from the current population without exposure.

111. Which of the following are the features of Rubella?
1. Rashes appear within 24 hours of onset of symptoms
2. Incubation period is 2 – 3 weeks
3. False membrane is formed in throat
4. Post auricular lymph nodes enlarge
Select the correct answer using the code given below:
(a) 1, 2 and 4
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 2 and 4 only

112. Iodine can be used for the disinfection of which of the following?
1. Water
2. Faeces
3. Urine
4. Skin
Select the correct answer using the code given below:
(a) 1 only
(b) 1 and 4 only
(c) 1, 3 and 4
(d) 1, 2 and 3

113. Consider the following:
1. Standard deviation
2. Range
3. Mode
4. Median
Among the above, which is/are the measure/ measures of dispersion?
(a) 1, 2, 3 and 4
(b) 1 only
(c) 1 and 2 only
(d) 3 and 4 only

114. Which of the following diseases has man as an incidental host with 'Pig → Mosquito → Pig' as the basic cycle of transmission?
(a) Japanese encephalitis
(b) Chikungunya
(c) Handigodu syndrome
(d) Kyasanur forest disease

115. A screening programme for school children was undertaken with the following results:
1. 30% boys and 60% girls were found to be anemic
2. 50% children had history of passing worms in stool
3. 10% children had poor vision
4. 5% children had enlarged tonsils
In this context, which of the following is not an appropriate follow up activity?
(a) Providing iron supplementation to all children
(b) Administering mass deworming medication to all children
(c) Referring those children with enlarged tonsils for surgery
(d) Prescribing corrective spectacles to children with poor vision

116. Sullivan's index is an indicator of:
(a) Mortality
(b) Morbidity
(c) Disability
(d) Health care delivery

117. Which one of the following mosquitoes is responsible for transmitting Japanese encephalitis?
(a) Culex tritaeniorhynchus
(b) Anopheles stephensi
(c) Aedes aegypti
(d) Mansonoides

118. The primary route of administration of measles vaccination is:
(a) Subcutaneous

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(b) Intradermal
(c) Intravenous
(d) Intranasal

119. Which of the following statements is not true regarding HIV infection?
(a) HIV does not transmit through fomites.
(b) Every HIV infected person would require antiretroviral treatment during lifetime.
(c) All HIV positive mothers transmit infection to their newborn children.
(d) Infected blood transfusion leads to 100% transmission among recipients.

120. Which one of the following statements is correct regarding diabetes epidemiology?
(a) Its prevalence is not affected by age.
(b) Females are 2.5 times more at risk.
(c) Maternal diabetes increases the risk of subsequent diabetes.
(d) Central obesity is not linked with diabetes.

END

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57. Rokitansky – Kuster – Hauser syndrome is associated with:
(a) Primary amenorrhoea with mullerian agenesis
(b) Renal abnormalities
(c) Normal hormone profile
(d) All of the above

58. Neo-natal infection in a Hepatitis 'B' positive pregnant woman can be prevented by administering:
(a) Hepatitis 'B' vaccine
(b) Immunoglobulin
(c) Vaccine and Immunoglobulin
(d) Corticosteroids

59. The level of external cervical os in a second degree utero–vaginal prolapse is:
(a) At the level of ischial spines
(b) Between ischial spines and introitus
(c) Introitus
(d) 3 cm outside introitus

60. Which one of the following is not an epithelial tumour of the ovary?
(a) Serous cystadenoma
(b) Brenner's tumour
(c) Clear cell tumour
(d) Endodermal sinus tumour

61. In which of the following is the term low and high grade squamous intraepithelial neoplasia used?
(a) FIGO staging
(b) Papanicalou method
(c) Bethesda classification
(d) Shaw's classification

62. Carcinoma of endometrium is associated with the following risk factors except:
(a) Obesity
(b) Diabetes
(c) Hypertension
(d) Multiparity

63. Female sterilization is contraindicated in:
(a) Heart disease
(b) Diabetes mellitus
(c) Hypertension
(d) None of the above

64. Laparoscopic sterilization is not recommended during the period of:
(a) Immediate post partum
(b) Interval
(c) Post menstrual
(d) Post first trimester M.T.P

65. The highest incidence of ectopic pregnancy amongst contraceptive users is observed with:
(a) Combined contraceptive pills
(b) Copper T intrauterine contraceptive device
(c) Progestasert intrauterine device
(d) Levonorgestrel intrauterine system

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66. Which one of the following is the most suitable situation for prescribing progestin only pill?
(a) Young patients
(b) Emergency contraception
(c) Lactating mother
(d) Woman with unexplained vaginal bleeding

67. During Pomeroy's method of female sterilization, which portion of tube is ligated?
(a) Isthmus
(b) Ampullary
(c) Isthmo-ampullary
(d) Cornual

68. Which of the following is not true regarding 'no scalpel' vasectomy?
(a) Special instruments are used to deliver the vas instead of cutting the skin.
(b) Scrotal skin is cut with LASER to expose the vas.
(c) The failure rate is same as that of conventional vasectomy.
(d) It is a very popular method in China.

option (b) is not routinely done for palliative relief of obstructive jaundice in this scenario.

7. (a) 1, 2 and 3

Splenic salvage (splenorrhaphy or partial splenectomy) is desirable to preserve immune function. However, hemodynamic instability (labile blood pressure) reduces the safety margin for splenic preservation. Intraperitoneal infection around the spleen makes salvage dangerous due to the risk of abscess or sepsis. Pre-existing splenic disease (e.g., hematologic disorders) may also contraindicate salvage. Age below 50 years, on the other hand, is not a contraindication; indeed, younger patients often benefit most from retaining functional splenic tissue.

8. (a) A-1 B-3 C-2 D-4

Caroli's disease (A) features congenital dilatation of intrahepatic bile ducts, often presenting with cholangitis (abdominal pain, biliary sepsis → 1). Budd-Chiari syndrome (B) involves hepatic vein outflow obstruction, causing ascites (3). Polycystic liver disease (C) typically produces hepatomegaly and discomfort (2). Primary sclerosing cholangitis (D) chiefly manifests as abnormal LFT or jaundice (4) due to cholestasis. Matching these characteristic findings to each condition clarifies the most appropriate associations.

9. (b) Duodenoduodenostomy

Annular pancreas is a congenital anomaly in which pancreatic tissue encircles the second part of the duodenum, potentially causing obstruction. The main goal is to bypass the obstructed segment and preserve normal gastrointestinal continuity. Duodenoduodenostomy (anastomosis between two parts of the duodenum) is typically the procedure of choice, as it corrects the obstruction effectively while minimizing the bypassed portion of the bowel. Gastrojejunostomy is less physiologic and used only if duodenoduodenostomy is not feasible.

10. (c) Jejunostomy

In gastric outlet obstruction, the obstructed stomach often prevents effective nutrition through a nasogastric (Ryles) tube. While a gastrostomy places a feeding tube directly into the stomach, it still lies proximal to the obstruction. Jejunostomy, however, bypasses the entire obstructed region and allows direct enteral feeding into the small intestine. Enteral nutrition is preferred over total parenteral nutrition whenever possible for maintaining gut integrity, reducing infectious complications, and promoting better overall nutrition.

11. (d) Femoral

For open inguinal hernia repair under local anesthesia, infiltration blocks the ilio-inguinal, ilio-hypogastric, and the genital branch of the genitofemoral nerve, which supply the inguinal canal and overlying skin. The femoral nerve primarily innervates the anterior thigh and is not typically anesthetized for inguinal hernia repair. Blocking the correct nerves ensures adequate pain control in the operative field without unnecessarily blocking the larger femoral nerve territory.

12. (c) 1 and 3

The diaphragm's caval opening at T8 transmits the inferior vena cava (1) and usually the right phrenic nerve or its branches (3). The esophageal hiatus at T10 conveys the esophagus and vagal trunks (so vagus nerve is not part of the caval opening). The aortic hiatus at T12 transmits the aorta, thoracic duct, and azygos vein, making thoracic duct (4) unrelated to the T8 opening.

13. (a) Intercostal tube drainage

A traumatic hemothorax results from bleeding into the pleural space, compromising ventilation and potentially leading to shock. The mainstay of treatment is to evacuate the blood and allow lung re-expansion, accomplished by placing a large-bore intercostal tube drain. This procedure also monitors ongoing bleeding. Simple aspiration is insufficient for larger volumes. Open drainage procedures are typically reserved for cases of massive hemothorax or clotted hemothorax requiring surgical intervention.

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14. (c) They contract to the same degree as a grafted sheet of skin.

A meshed skin graft is cut in a pattern that allows it to expand, covering a larger surface area while permitting fluid drainage through mesh openings. It "takes" well on healthy granulation tissue, reducing the risk of fluid trapping. However, compared to an unmeshed sheet graft, a meshed graft usually contracts more because there is less dermal support to resist wound contraction. Thus, the statement that it contracts to the same degree as a sheet graft is incorrect.

15. (d) completely remove all encircling bandages.

After a fall on an outstretched hand, there is a risk of fracture and compartment syndrome, especially when tight or improvised bandages are applied. The most urgent priority is to release any circumferential dressing that might be compromising circulation or creating rising compartment pressures. While X-rays are essential to diagnose fractures, the immediate concern is preventing ischemia or nerve damage. Therefore, removing constrictive bandages must precede radiologic investigations.

16. (d) Anterior talofibular ligament

The majority of ankle sprains involve forced inversion, causing damage to the lateral ligament complex. Of the lateral ligaments, the anterior talofibular ligament (ATFL) is the most commonly injured because it is the weakest and first to encounter stress when the foot twists inward. The posterior talofibular ligament and calcaneofibular ligament are also at risk but less frequently involved. The medial (deltoid) ligament and the spring ligament are typically not the main sites of injury in common ankle sprains.

17. (c) Myxoma

Primary cardiac tumors are quite rare, and among them, benign lesions predominate. Myxomas, especially left atrial myxomas, are the most common primary cardiac tumors in adults. They often present with obstructive symptoms (mimicking valvular stenosis), systemic embolization, or constitutional features (fever, weight loss). Although malignant cardiac tumors such as sarcomas (angiosarcoma, rhabdomyosarcoma) do occur, they are far less frequent than myxomas. Lymphomas can involve the heart, but again, they are much rarer compared to myxomas.

18. (b) Ureterolithotomy

Neurogenic voiding dysfunction can occur when pelvic autonomic nerves or their branches are disrupted. Radical hysterectomy, abdominoperineal resection, and retroperitoneal lymph node dissection risk damaging the hypogastric or pelvic splanchnic nerves involved in bladder control. Ureterolithotomy, on the other hand, typically targets the ureter to remove stones without extensive dissection near autonomic nerve pathways. Therefore, it is much less likely to cause neurogenic voiding dysfunction compared to the other listed procedures.

19. (c) Wet sponge haemorrhage

Diabetic retinopathy is characterized by microaneurysms, dot (or blot) hemorrhages, flame-shaped hemorrhages, hard exudates, and sometimes cotton wool spots in more advanced disease. "Wet sponge hemorrhage" is not a recognized term in diabetic retinal changes. Dot hemorrhages appear as small, round intraretinal bleeds, while flame-shaped hemorrhages extend within nerve fiber layers. Microaneurysms are among the earliest signs of diabetic retinopathy. The "wet sponge" description does not fit the standard terminology in diabetic eye disease.

20. (c) 1, 4, 3, 2

In the femoral triangle (bounded by the inguinal ligament, sartorius, and adductor longus), the arrangement from medial to lateral is: femoral canal (1) → femoral vein (4) → femoral artery (3) → femoral nerve (2). A common mnemonic in reverse (lateral to medial) is NAVEL: Nerve, Artery, Vein, Empty space (canal), Lymphatics. Hence, from medial to lateral, the canal is first, then vein, then artery, then nerve.

21. (d) Otosclerosis

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Otosclerosis is a primary disease of the bony labyrinth, typically involving fixation of the stapes footplate in the oval window. It commonly presents in young adult females with progressive bilateral conductive hearing loss. Patients often initially notice soft speech and difficulty hearing low-pitched sounds. Presbycusis, by contrast, is an age-related sensorineural loss, and chronic suppurative otitis media would usually feature persistent ear discharge. Meniere's disease causes episodic vertigo and fluctuating sensorineural hearing loss, not a purely conductive deficit.

22. (b) A-3 B-4 C-1 D-2

Highly selective vagotomy (A) risks devascularization of the lesser curvature, leading to necrosis (3). When vagotomy is combined with gastrojejunostomy (B), the denervation and bypass can cause rapid transit and diarrhea (4). Subtotal gastrectomy (C) removes a significant portion of the stomach, resulting in long-term nutrient malabsorption and metabolic bone disease (1). Nissen's fundoplication (D) creates a 360° wrap around the esophagus to treat reflux, but it can trap gas inside the stomach, causing postprandial gas bloat (2).

23. (d) Sister Joseph's nodule ..... Solitary secondary deposit in the liver

A Sister Mary Joseph nodule is a metastatic lesion typically manifesting as a periumbilical nodule, most often originating from intra-abdominal malignancies (like stomach, colon, or pancreas). It is not a deposit in the liver. By contrast, Krukenberg tumors affect the ovaries via transcoelomic spread, Blumer's shelf refers to metastatic deposits in the rectouterine (pouch of Douglas) or rectovesical pouch, and Virchow's node is a left supraclavicular lymph node metastasis (Troisier's sign) usually from abdominal malignancies.

24. (c) 3 - 6 months

Cleft lip repair is usually performed around 3 months of age, following the "rule of 10s": approximately 10 weeks of age, 10 pounds in weight, and 10 g/dL hemoglobin. This timing ensures that the infant is healthy enough for anesthesia and promotes better healing while minimizing feeding or nutritional issues. Earlier than 3 months can be risky, whereas beyond 6 months can delay speech development. Hence, 3–6 months is a standard window for optimal surgical correction.

25. (b) Full thickness burn

Electrical contact burns often extend deep into tissues because current travels along the path of least resistance (nerves, blood vessels, etc.). Even when the surface wound appears small, underlying damage can be extensive, frequently resulting in full-thickness injury. Superficial or partial-thickness descriptions typically apply to thermal or scald burns. Electrical burns therefore must be treated as potentially severe full-thickness injuries that may compromise muscle, bone, and neurovascular structures, demanding thorough evaluation and possible surgical intervention.

26. (c) Matrix

Fracture healing depends on an adequate blood supply (for inflammatory and reparative phases) and the osteogenic potential of both the periosteum (externally) and the endosteum (internally). These layers contain progenitor cells that form new bone. The matrix, however, is primarily the existing extracellular scaffold; while important for structural support, it does not contribute actively to forming new bone tissue. Thus, blood vessels, periosteum, and endosteum are crucial, whereas the matrix plays the least active role in generating new bone.

27. (c) Colonoscopy

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Rectal bleeding, change in bowel habits, and tenesmus are classic "alarm" symptoms suggesting possible colorectal pathology, including rectal carcinoma. Colonoscopy is the gold standard diagnostic procedure: it permits direct visualization of the mucosa throughout the colon and allows biopsy of suspicious lesions. Occult blood tests can miss intermittent bleeding, and imaging alone (CT, ultrasound) cannot provide a definitive tissue diagnosis. Colonoscopy both confirms the lesion and facilitates histopathological evaluation for precise treatment planning.

28. (a) Appendectomy

acronym and, while an elevated WBC can occur in pregnancy due to stress or infection, it is not a diagnostic criterion of HELLP.

43. (d) Placenta previa

Common risk factors for puerperal sepsis include multiple or repeated vaginal examinations (especially with ruptured membranes), traumatic or manual placental removal, poor hygiene, anemia, and prolonged labor. Grand multiparity can also increase maternal risks. However, placenta previa is chiefly associated with hemorrhage and placental location problems, not directly with postpartum infection. Therefore, it is the least typical predisposing factor for puerperal sepsis among the options given.

44. (d) 1, 2 and 3

Oligohydramnios (reduced amniotic fluid) can lead to or be associated with fetal pulmonary hypoplasia (1) because inadequate fluid restricts lung development. Fetal chromosomal anomalies (2) may impair renal function or amniotic fluid production. Prostaglandin synthetase inhibitors (e.g., NSAIDs) (3) can reduce fetal renal blood flow and decrease fluid output. An AFI of 15 cm (4) is within normal range, so it is not indicative of oligohydramnios.

45. (c) Sling surgery

In a young, nulliparous woman who desires to preserve fertility and maintain normal menstruation, sling operations (e.g. Shirodkar sling) are preferred to correct uterine prolapse without removing the uterus. Hysterectomy (vaginal or abdominal) obviously sacrifices fertility, while Le Forte's colpocleisis obliterates the vaginal canal, making future childbearing or normal intercourse impossible. A sling procedure offers structural support to the cervix/uterus, thereby addressing prolapse but preserving uterine function.

46. (c) Ruptured ectopic pregnancy

Severe abdominal pain, hemodynamic instability (tachycardia, hypotension), and intra-abdominal tenderness in the setting of a missed menstrual period strongly point to a ruptured ectopic. The presence of a contraceptive device (Copper T) does not eliminate ectopic risk; in fact, if pregnancy occurs, ectopic is more likely. Fullness in the pouch of Douglas can be blood from rupture. Uterine tenderness and a "bulky, soft" feel may be misleading, but the clinical picture favors intraperitoneal bleeding from a ruptured ectopic pregnancy.

47. (d) Reassess for occipitoposterior position and cephalopelvic disproportion

In the active phase of labor, a primigravida is expected to dilate 1 cm/hour if contractions are adequate. Here, only 1 cm of progress has occurred in 4 hours despite "good uterine contractions," suggesting a possible malposition (e.g., occipitoposterior) or mechanical disproportion. Before deciding on cesarean, thorough re-evaluation of fetal position, station, and pelvis (to rule out CPD) is warranted. Simply waiting or administering more oxytocin may not help if there is true malposition or obstruction.

48. (b) At the level of umbilicus

By the end of the third stage (delivery of placenta), the well-contracted uterus typically lies around or slightly below the umbilicus. Classic teaching places the fundus near the umbilicus immediately postpartum (approximately the size of a 20-week gestation). Over subsequent days, it descends roughly 1 cm per day. Xiphisternum (much higher) and symphysis pubis (much lower) do not accurately reflect its usual immediate post-placental position.

49. (c) Facial palsy

Shoulder dystocia can lead to significant trauma due to difficulty delivering the fetal shoulders. Common complications include brachial plexus injuries (e.g., Erb's palsy), maternal genital tract lacerations, and postpartum hemorrhage. Facial nerve palsy is typically seen with forceps application or direct compression of the facial nerve, not from shoulder dystocia. Hence, facial palsy is not a characteristic complication of shoulder dystocia.

50. (b) Oral prostaglandin tablet

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35. (a) Achalasia cardia

Achalasia cardia is characterized by failure of the lower esophageal sphincter (LES) to relax, leading to progressive dilation of the esophagus. On barium swallow, the classic finding is a "bird's beak" tapering at the gastroesophageal junction, often accompanied by an air-fluid level in the dilated proximal esophagus. Carcinoma esophagus may cause an irregular stricture, hiatus hernia shows stomach herniation above the diaphragm, and Barrett's esophagus is a columnar metaplasia typically identified endoscopically rather than by a "bird beak" sign.

36. (a) T_2 N_1 M_1

Tumor (T) staging in the colon: T2 implies invasion into, but not beyond, the muscularis propria. N1 indicates involvement of 1–3 regional lymph nodes. M1 denotes any distant metastasis—in this case, a single liver metastasis. Thus, a lesion invading muscularis propria (T2), with 1 or 2 positive lymph nodes (N1), and a solitary liver metastasis (M1) aligns with T2 N1 M1. The other T and N combinations either indicate deeper invasion (T3/T4) or more extensive nodal disease (N2).

37. (a) Resection

In a patient with colon cancer and a solitary, resectable liver metastasis, surgical removal of the metastatic lesion provides the best chance of long-term survival or possible cure. If the lesion is deemed operable and the patient is a suitable surgical candidate, liver resection is preferred. Ablation (RFA) or other local treatments may be considered if resection is not feasible. Combined chemotherapy-based approaches can also be employed perioperatively but, for a single resectable deposit, surgery remains the mainstay.

38. (d) Leukocytosis

The Alvarado score (MANTRELS) is used to gauge the likelihood of acute appendicitis. It allots:

1. 2 points for Tenderness in the right lower quadrant and 2 points for Leukocytosis.
2. 1 point each for Migration of pain, Anorexia, Nausea/vomiting, Rebound tenderness, Elevated temperature, and a Left shift of WBCs.
3. Of the listed options, only Leukocytosis carries 2 points, making it the correct choice.

39. (c) Apex

In intussusception, a segment of bowel (the intussusceptum) telescopes into an adjacent segment (the intussuscipiens). The tip (or apex) of the intussusceptum is pulled furthest in and is most vulnerable to compromised mesenteric blood flow. Because the mesentery becomes kinked and compressed, ischemia typically develops at the leading edge first (the apex), increasing the risk of necrosis and perforation in that part of the bowel.

40. (b) Intraductal papilloma

In a younger woman, spontaneous bloody or serous nipple discharge from a single duct strongly suggests an intraductal papilloma. It often presents as a small, benign tumor within a major lactiferous duct beneath the areola. Duct ectasia may cause thick, multicolored discharge, while fibrocystic changes typically result in cyclical pain and non-bloody fluid. Although carcinoma can cause bloody discharge, intraductal papilloma is the most common benign cause of localized bloody discharge.

41. (b) A-4 B-2 C-3 D-1

1. Palmer's sign (A): Detectable rhythmic uterine contractions in very early pregnancy (first trimester) → (4)
2. Braxton Hicks sign (B): Intermittent, painless uterine contractions typically from the second trimester onward → (2)
3. Goodell's sign (C): Softening of the cervix in early pregnancy → (3)
4. Chadwick sign (D): Bluish discoloration of the cervix and vagina → (1)

42. (c) Leucocytosis

HELLP syndrome is defined by Hemolysis (H), Elevated Liver enzymes (EL), and Low Platelet count (LP). It is a severe form of preeclampsia/eclampsia spectrum. Leukocytosis (elevated white cell count) is not part of the HELLP

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or rudimentary uterus. These patients may also exhibit renal tract anomalies (e.g., unilateral renal agenesis or ectopic kidney). Because normal ovaries are present, estrogen production is unaffected, explaining the development of normal breast tissue and external secondary sex traits.

58. (c) Vaccine and Immunoglobulin

In an infant born to an HBV-infected mother, combined passive–active immunoprophylaxis is the most effective approach. Immediately after birth, the neonate should receive Hepatitis B immunoglobulin (HBIG) for immediate passive protection along with the first dose of the Hepatitis B vaccine to stimulate active immunity. This regimen significantly lowers the risk of vertical transmission and subsequent chronic HBV infection.

59. (c) Introitus

Degrees of uterovaginal prolapse are classified based on how far the cervix (or uterus) descends.

1. First degree: the cervix remains well within the vagina.
2. Second degree: the cervix descends to (or just beyond) the introitus but the uterus is not completely out.
3. Third degree (procidentia): the entire uterus protrudes outside.

Hence in second degree, the external os typically appears at the level of the introitus.

60. (d) Endodermal sinus tumour

Ovarian neoplasms are classified predominantly into epithelial, germ cell, and sex cord–stromal categories. Serous cystadenomas, Brenner tumors, and clear cell tumors all fall under the epithelial class. Endodermal sinus tumor (yolk sac tumor) is a germ cell tumor that typically produces alpha-fetoprotein (AFP). It is not part of the epithelial group.

61. (c) Bethesda classification

The Bethesda system for reporting cervical and vaginal cytology introduced the terms LSIL (low-grade squamous intraepithelial lesion) and HSIL (high-grade squamous intraepithelial lesion). FIGO staging is used primarily for gynecologic cancers (e.g., cervical, endometrial) once they are invasive. Papanicolaou (Pap) test is an older nomenclature, and Shaw's classification applies to uterine fibroids. Thus, LSIL/HSIL is characteristic of Bethesda reporting.

62. (d) Multiparity

Common risk factors for endometrial carcinoma include prolonged estrogenic stimulation: obesity (peripheral estrogen conversion), diabetes mellitus, hypertension, nulliparity, late menopause, and unopposed estrogen therapy. Multiparity is generally protective because repeated pregnancies interrupt unopposed estrogen cycles. Hence, multiparity is the exception here and is not a typical risk factor for endometrial cancer.

63. (d) None of the above

No absolute contraindication to tubal ligation exists solely on the basis of controlled heart disease, diabetes, or hypertension. As long as these conditions are stable and the patient is medically fit for the procedure (usually a short anesthetic), sterilization can proceed. Therefore, none of the listed conditions absolutely prohibits female sterilization.

64. (a) Immediate post partum

"Immediate postpartum" tubal sterilization is typically done via mini-laparotomy, not by laparoscopy, because the enlarged uterus and altered anatomy make laparoscopic visualization and trocar placement more challenging. "Interval" sterilization (weeks or months postpartum), "post-menstrual," or "post first-trimester MTP" can be done laparoscopically under suitable conditions. Hence, immediate postpartum is generally not the recommended window for laparoscopic sterilization.

65. (c) Progestasert intrauterine device

All modern contraceptives reduce the absolute number of pregnancies, but if pregnancy does occur with certain devices in situ, the proportion of those that are ectopic can be higher. The progestin-releasing (Progestasert) IUD historically had one of the highest relative risks for ectopic when a method-failure pregnancy

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Induction of labor in women with a uterine scar carries a higher risk of uterine rupture. Oral prostaglandins (especially misoprostol) can cause intense uterine contractions and hyperstimulation, considerably increasing the danger of scar dehiscence. Vaginal prostaglandin gel can be used cautiously in selected cases, and membrane sweeping plus an Oxytocin infusion are relatively safer options under close monitoring. Oral prostaglandin tablets are generally contraindicated or avoided in VBAC induction protocols.

51. (c) Established breast feeding

Subinvolution refers to a failure of the uterus to return to its normal size after childbirth. Retained placental tissue, pelvic infection, and overdistension (e.g., multiple pregnancy) can all hamper normal uterine contraction and involution. In contrast, breastfeeding stimulates oxytocin release, which promotes uterine contraction and aids involution. Therefore, established breastfeeding helps rather than hinders uterine involution, making it the exception among the listed factors.

52. (a) Milk production

Oxytocin, secreted by the posterior pituitary, triggers uterine contractions—helping both in labor and postpartum uterine involution. These contractions are also responsible for after pains. Oxytocin stimulates myoepithelial cells in the breast, causing milk ejection (the let-down reflex). Milk production (lactogenesis), however, is controlled primarily by prolactin, secreted by the anterior pituitary. Thus, oxytocin does not produce milk; it only assists in expelling the milk already formed.

53. (b) Abdominal cervicopexy

A young nulliparous patient with advanced uterovaginal prolapse often wishes to preserve fertility. Abdominal cervicopexy (sometimes called sling surgery) is a good option for suspending the uterus while maintaining reproductive potential. By contrast, hysterectomy (vaginal or abdominal) would preclude future childbearing, and Fothergill's (Manchester) operation is better suited to lesser degrees of descent. Simple anterior/posterior colporrhaphy chiefly addresses cystocele or rectocele, not significant uterine prolapse.

54. (d) Caesarean section

A persistent transverse lie at term with active labor (5 cm dilation) is unlikely to correct spontaneously and poses significant risk of cord prolapse once membranes rupture. External cephalic version is typically attempted before or early in labor if the situation is favorable, but once well into active labor with a dilating cervix, success rates drop and risks rise. Internal podalic version is generally reserved for a second twin. Consequently, caesarean delivery is the safest choice.

55. (a) Thromboembolism

Combined oral contraceptives carry a known risk of venous thromboembolism. Women with a history of thromboembolic events or thrombogenic mutations have an absolute contraindication to estrogen-containing OCPs. Hypertension, diabetes, and epilepsy can sometimes be relative or manageable contraindications depending on severity and control, but a documented thromboembolic history precludes use of typical combined pills. Progestin-only options may still be considered in thromboembolic states under appropriate supervision.

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56. (c) Parietal bone

A cephalhematoma is a subperiosteal hemorrhage confined to one cranial bone because the periosteum does not cross suture lines. The parietal bones are the most frequent site in newborns. Although it can occur over other bones (frontal, occipital, etc.), parietal bone involvement is by far the most common. Cephalhematomas typically resolve spontaneously but may increase jaundice risk by breaking down blood cells.

57. (d) All of the above

Müllerian agenesis (Rokitansky–Kuster–Hauser syndrome) presents with primary amenorrhea in a phenotypic female who has normally functioning ovaries (thus normal hormones and secondary sexual characteristics) but an absent

If Crohn's disease is confined to the appendix (and the cecum itself is not actively diseased), performing a simple appendectomy is generally considered appropriate and can alleviate the acute inflammatory process. When Crohn's involves the base of the appendix or extends significantly into the ileocecal region, a more extensive resection (e.g. ileo-colic) might be necessary. In the scenario described, a straightforward inflamed appendix discovered at surgery is typically removed, provided the surrounding bowel is healthy.

29. (c) While doing CT scan of brain take extra cuts at the cervical spine region

In polytrauma with an unconscious patient, a high index of suspicion for cervical spinal injury is crucial. While plain radiographs (AP, lateral) are classic, they may miss certain fractures. MRI is best for soft-tissue and cord injuries but may not be immediately feasible in acute trauma. Modern trauma protocols often include a "pan-scan" (whole-body CT) which is quick and highly sensitive for bony injuries; therefore, adding dedicated cervical spine cuts during the head CT is the most reliable screening tool.

30. (b) Bradycardia

Hypovolemic shock arises from significant fluid/blood loss, leading to decreased venous return, reduced cardiac output, and hypotension. Compensatory mechanisms include tachycardia (not bradycardia), peripheral vasoconstriction, and decreased urine output (oliguria) as the body attempts to preserve blood flow to vital organs. Metabolic acidosis develops from poor tissue perfusion and lactate accumulation. Bradycardia is atypical in early or mid stages of hypovolemia and would suggest other etiologies (e.g., neurogenic shock or certain medications).

31. (b) Cardiac tamponade

In the setting of chest trauma, distended neck veins alongside pallor, tachycardia, and chest pain strongly suggests cardiac tamponade. Fluid or blood accumulation in the pericardial sac impairs cardiac filling, causing elevated central venous pressure (hence neck vein distension). Hemothorax typically would not produce prominent neck vein engorgement; likewise, pulmonary laceration or ruptured spleen might cause hypotension and shock but not the classic jugular venous distension. Beck's triad (hypotension, raised JVP, muffled heart sounds) is also a key feature.

32. (d) It is usually associated with pyloric stenosis.

A trichobezoar is a collection of hair within the gastrointestinal tract, most often found in adolescent females with trichophagia (hair eating) linked to psychiatric conditions (e.g., trichotillomania). They are indeed more common in young patients and female preponderance is well known. Pyloric stenosis is not typically implicated in trichobezoar formation; instead, the stomach becomes the reservoir where ingested hair accumulates and can form large casts. Thus, the association with pyloric stenosis is incorrect.

33. (d) 1, 2 and 3

Cleft palate can compromise the function of the Eustachian tube, predisposing to recurrent otitis media (1). Speech problems (2) are common due to the inability to achieve normal palatal closure required for articulation and resonance. Dentition abnormalities (3) may also occur because the maxillary arch can be malformed or misaligned. All three—ear infections, speech issues, and dental malocclusions—commonly appear in children with cleft palate, reinforcing the importance of a multidisciplinary management approach.

34. (b) Fasciotomy

A tender, tense, and dusky limb with weak pulses after revascularization strongly suggests compartment syndrome. Re-embolectomy might be considered if there is evidence of re-occlusion, but the hallmark signs of compartment syndrome (pain, swelling, possibly pain on passive stretch, and compromised distal perfusion) point to elevated intracompartmental pressures. Fasciotomy decompresses these compartments, preventing irreversible muscle and nerve damage. Delaying fasciotomy in this scenario risks permanent ischemic injury and potential limb loss.

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occurred. Copper T and levonorgestrel IUS also increase the relative likelihood of ectopic if pregnancy happens, but Progestasert is known for having a particularly notable association among these options.

66. (c) Lactating mother

Progestin-only pills (POPs) are especially useful for breastfeeding mothers because they do not significantly reduce milk supply, unlike combined oral contraceptives that contain estrogen. They can be started soon after delivery and are safe for the infant. While progestin-only regimens can be used in young patients or as emergency contraception (in specific forms), the classic and most universally recommended scenario is a lactating mother.

67. (a) Isthmus

In the classic Pomeroy or "loop and tie" method, a segment of the isthmus of the fallopian tube is elevated into a small loop, tied off, and then the loop is excised. This approach is simple, effective, and widely taught in tubal ligation procedures. Tying off the isthmus portion helps ensure adequate separation of proximal and distal segments, promoting a permanent sterilization result.

68. (b) Scrotal skin is cut with LASER to expose the vas.

"No scalpel" vasectomy uses a small puncture rather than a scalpel incision, employing specialized ringed forceps to isolate and deliver the vas deferens. It does not involve cutting the skin with a laser. Its failure rate is comparable to conventional vasectomy, and it is indeed popular worldwide, including in China. The minimal puncture approach reduces bleeding, infection rates, and speeds recovery.

69. (d) You will not do it, as it is against the law.

Prenatal sex determination for the purpose of selecting or terminating a pregnancy is explicitly illegal under the PCPNDT Act (Pre-Conception and Pre-Natal Diagnostic Techniques Act). Even if the patient desires termination on the grounds of fetal sex, it is unlawful to comply. Hence, the correct professional response is to refuse termination on that basis.

70. (c) Carbon dioxide

Carbon dioxide (CO_2) is the preferred insufflation gas for laparoscopic procedures because it is noncombustible, readily absorbed, and easily eliminated by the lungs. Oxygen or nitrous oxide carry a risk of supporting combustion during electrocautery. Carbon monoxide is frankly toxic. CO_2's high diffusibility and low combustibility profile make it the standard choice for creating a safe pneumoperitoneum.

71. (c) Previous ectopic pregnancy

A past ectopic strongly predisposes to another ectopic in future pregnancies. Although an IUD in situ increases the relative probability that any pregnancy that does occur might be ectopic, overall fewer pregnancies occur with IUD usage. Previous normal delivery and past medical abortion do not carry as high a risk. The history of a prior ectopic remains the single most significant risk factor for recurrence.

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72. (a) Mentoanterior

In a face presentation, the fetal head is hyperextended so the face leads. When the chin (mentum) is directed anteriorly (Mentoanterior), the fetal face is essentially pointing toward the maternal pubis ("face to pubes"). This alignment is the only face presentation typically compatible with a safe vaginal delivery. Mentoposterior positions usually fail to rotate and often require cesarean delivery if they persist.

73. (c) 60 to 70 days after pregnancy

Maternal serum hCG rises rapidly after implantation and typically peaks around 8–10 weeks of gestation (roughly 60–70 days from the last menstrual period). After reaching its zenith, levels gradually decline and plateau for the remainder of pregnancy. Hence, the window of 60–70 days is the usual time of maximum hCG concentration in a normal gestation.

74. (b) Peritonium of the pouch of Douglas

While the ovary is the most frequent location for endometriosis ("chocolate cysts"), the next

most common site is the pelvic peritoneum, especially in the pouch of Douglas (rectouterine pouch). Endometrial implants tend to occur in dependent areas where shed cells can implant and proliferate. Lesions in the pouch of Douglas can cause significant pain (particularly with deep palpation) and can contribute to dysmenorrhea and dyspareunia. Other sites include uterosacral ligaments, round ligaments, and less commonly the fallopian tubes.

75. (a) immediately

A third-degree perineal tear involves injury through the anal sphincter complex. The recommended practice is to repair it as soon as feasible under proper anesthesia and aseptic conditions—ideally immediately or within the first few hours after delivery. Early repair reduces the risk of wound infection, provides optimal tissue apposition, and ensures the best chance of restoring sphincter function. Delaying repair can lead to poorer outcomes, higher complication rates, and potential chronic fecal incontinence.

76. (b) 35 days

A transvaginal ultrasound can typically detect the gestational sac around the fifth week of gestation, which corresponds to approximately 35 days from the last menstrual period (LMP). By this time, the sac usually measures a few millimeters in diameter. Earlier than about 4.5–5 weeks, the sac may be too small to visualize. Transvaginal scanning is more sensitive than abdominal ultrasound for early pregnancy detection and helps confirm intrauterine pregnancy at the earliest possible time.

77. (d) Premature menopause

Elevated gonadotropins (FSH, LH) with low estradiol suggests ovarian failure—an indicator of premature menopause (also termed premature ovarian insufficiency) if it occurs before age 40. In polycystic ovarian syndrome, estrogen levels tend to be normal or elevated, often with an altered LH:FSH ratio. Pituitary tumors can alter gonadotropin production, but typically do not present with simultaneously high FSH/LH in the face of low estrogen. Exercise-induced amenorrhea is usually a hypothalamic cause, leading to low gonadotropins.

78. (d) Superior gluteal

The internal iliac artery (hypogastric artery) has anterior and posterior divisions. The posterior division typically gives rise to the superior gluteal artery. By contrast, the anterior division includes arteries such as the uterine artery (in females), inferior vesical artery (or vaginal artery in females), obturator artery, internal pudendal artery, and inferior gluteal artery. Since superior gluteal stems from the posterior trunk, it is the exception among the listed branches.

79. (c) 100 women-years

The Pearl Index is a classic measure of contraceptive effectiveness. It is calculated as:
which usually translates into pregnancies per 100 woman-years of use. That means if 100 women use the method for a full year, how many pregnancies will occur? Other rates (per 1, per 10, or per 1000) are not standard for reporting the Pearl Index.

80. (a) A-2 B-3 C-1 D-4

1. Hand prolapse (A) in neglected obstructed labor with a demised fetus can require decapitation (2) if the fetus is impacted and cannot be delivered vaginally otherwise.
2. Placental delivery (B) often follows the Brandt–Andrews maneuver (3), a controlled cord traction technique.
3. Extended arms of breech (C) are reduced by the Lovset technique (1), which helps deliver the aftercoming arms in breech births.
4. Deep transverse arrest (D) may be relieved by vacuum extraction (4) to help rotate and deliver the fetal head.

81. (c) Irrational use of antibiotics by doctors

"De-professionalization" in medicine describes a decline in professional standards, autonomy, or public trust. While medical malpractice is unlawful behavior, and rural internships or primary care provision are part of healthcare service, the widespread and irrational use of antibiotics—often without following evidence-

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based guidelines—reflects an erosion of professional norms. This leads to antibiotic resistance, undermines trust in medical advice, and exemplifies how professional judgment can be compromised by external pressures or inadequate regulation.

82. (b) 1, 3 and 4

The Physical Quality of Life Index (PQLI) is constructed from three indicators:

1. Literacy rate
2. Infant mortality rate (IMR)
3. Life expectancy at age one (to remove the impact of high infant mortality).

Hence, the relevant components are literacy (1), life expectancy at one year (3), and infant mortality (4). Life expectancy at birth (2) is not specifically used in the PQLI.

83. (d) Safe abortion services

According to Indian Public Health Standards (IPHS), Primary Health Centres (PHCs) are mandated to provide comprehensive primary care services, including safe abortion services (Medical Termination of Pregnancy up to a certain gestational limit by trained personnel). A blood storage facility is usually found at Community Health Centres (CHCs) or higher centers. Minor surgical procedures (like hydrocele surgery) and manual removal of placenta typically go beyond the most basic PHC scope and are more often handled at FRUs or CHCs.

84. (d) LSD

Lysergic Acid Diethylamide (LSD) primarily causes intense psychoactive experiences (hallucinations) without significant physical dependence. While psychological habituation can occur in some users, LSD does not cause classic withdrawal or craving syndromes. In contrast, substances such as barbiturates, heroin, and even cannabis can produce dependence or withdrawal symptoms. LSD's risk profile lies more in acute perceptual and psychological effects rather than in establishing a physical dependence cycle.

85. (d) Community diagnosis

"Community diagnosis" involves systematically identifying and measuring health problems in a population, including their distribution and determinants. It focuses on assessing the pattern of disease and the factors that influence its occurrence (e.g., demographic, environmental, and behavioral factors). The iceberg phenomenon refers to hidden cases, confounding is a statistical concept, and experimental epidemiology deals with interventions. Community diagnosis thus best matches the definition of describing a disease pattern and its influencing factors in a specific population.

86. (c) Virulence of the disease agent

Disease control focuses on reducing disease incidence, prevalence, morbidity, and preventing complications or death. While lowering healthcare costs to the community is often a secondary benefit (and sometimes a stated goal), directly reducing the virulence (inherent pathogenicity) of the organism is not typically how public health or medical interventions are framed. Measures aim to interrupt transmission, improve outcomes, and limit spread, rather than altering the microbe's intrinsic virulence.

87. (c) Correlation and regression

Correlation and regression are statistical methods used to examine relationships between two continuous variables (e.g., maternal hemoglobin level and birth rate in a population). Correlation measures the strength/direction of association, and regression allows one to predict the dependent variable from the independent variable. Standard errors of differences are used in hypothesis testing between means or proportions, whereas sensitivity/specificity pertains to diagnostic test accuracy. Hence, correlation/regression is the correct method to assess how changes in maternal hemoglobin might relate to birth rates.

88. (b) Lathyrus sativus

Lathyrus sativus (the khesari dal) contains BOAA (β-oxalyl-L-α,β-diaminopropionic acid), responsible for neurolathyrism, a neurotoxic condition characterized by spastic paraparesis or paraplegia. Chronic consumption, particularly

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during famines or poverty when this pulse is heavily relied upon, leads to irreversible neurological damage. Argemone mexicana causes epidemic dropsy; Aspergillus flavus produces aflatoxins, and Crotolaria species are implicated in hepatotoxic pyrrolizidine alkaloids.

89. (d) 1, 2 and 3

Seasonal disease patterns can arise from changes in vector abundance or behavior (1) (e.g., mosquitoes thriving in rainy seasons), shifts in environmental factors (2) such as temperature or humidity affecting both pathogens and hosts, and periodic fluctuations in community-level immunity (3). School terms or holiday gatherings can also cyclically alter disease transmission. Although "herd immunity" often is associated with multi-year epidemic cycles, shorter-term seasonal population dynamics or immunologic patterns may still influence the timing and severity of disease outbreaks.

90. (b) Methaemoglobinaemia

High nitrate levels in water (often from fertilizer run-off) are converted to nitrites in the body, which oxidize hemoglobin to methemoglobin. Methemoglobin cannot bind oxygen effectively, leading to tissue hypoxia. In infants, this manifests as "blue baby syndrome" due to cyanosis. The other listed options are not typical outcomes of nitrate-contaminated water.

91. (a) Human

Human milk has lower concentrations of certain minerals, including calcium, compared with many other mammals' milk. While human milk is perfectly tailored to infant needs, its total calcium level is lower than that of goat, cow, or buffalo milk. This partly explains why bovine milk is often used as a dietary source of calcium, though it must be modified appropriately if given to infants.

92. (c) 21 days

Under the Births and Deaths Registration Acts in many jurisdictions (including India), the legal time limit to register a birth is typically within 21 days. After that, registration can still be done but might require additional procedural steps or late fees. This ensures prompt and accurate vital statistics for public health and administrative purposes.

93. (b) Per capita space for each student should be 6 sq. feet.

A generally recommended standard for classroom space is closer to 8–10 square feet or more per child (about 0.75–1.0 m^2), ensuring adequate seating, ventilation, and minimal overcrowding. Six square feet is on the lower side and not usually endorsed for a healthy classroom environment. Minus-type desks (for correct posture), providing 25% of floor space in windows/doors for ventilation, and having at least one urinal per 50–60 students are commonly accepted guidelines.

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94. (b) A minimum of one case of AFP per 100,000 children under 5 years of age detected per year

Adequate polio surveillance requires detecting at least 1–2 cases of non-polio acute flaccid paralysis (AFP) per 100,000 children under 15 years (not under 5) annually, plus consistent "zero reporting" from all surveillance sites, and timely stool sampling. The under-5 criterion in option (b) is not the recognized international standard.

95. (c) 1, 2 and 3 only

In HIV co-infection, TB more commonly presents with atypical or smear-negative pulmonary disease and a higher rate of extra-pulmonary involvement. Skin tests for TB can be falsely negative due to immunosuppression. True cavitation (lesions with large cavities) is actually less frequent in advanced HIV because the host immune response is inadequate to "wall off" lesions.

96. (a) 1, 2 and 3

Classical cholera typically presents with a sudden onset of profuse watery diarrhea ("rice-water stools") and minimal or no vomiting (no retching). Because it is noninvasive, it does not cause tenesmus or significant inflammatory leukocytosis. Food poisoning commonly

involves nausea/vomiting, and if invasive, it can produce tenesmus and leukocytosis. Thus, options 1 (acute purging), 2 (lack of retching), and 3 (no tenesmus) best differentiate cholera from typical foodborne illness.

97. (b) Tuberculin test

To measure infection (rather than active disease) at the population level, the tuberculin (Mantoux) skin test is used. Sputum examination and radiography detect active TB cases, which may underestimate the latent infected pool. The tuberculin test reveals how many individuals have been sensitized to Mycobacterium tuberculosis, making it the key tool to gauge infection prevalence in the community.

98. (c) Sarcoidosis

Tobacco smoking is strongly linked with chronic bronchitis, emphysema, and lung (bronchogenic) carcinoma. Sarcoidosis, however, is a granulomatous disease of unclear etiology that has not been causally tied to smoking. In fact, some evidence suggests a somewhat lower prevalence of sarcoidosis among smokers, though the relationship is not fully understood.

99. (b) Approximately 68% of the values

Under the standard normal distribution, about 68% of values lie within ±1 SD from the mean, about 95% within ±2 SD, and roughly 99.7% within ±3 SD. Therefore, the correct coverage for ±1 SD is close to 68%.

100. (a) A-3 B-4 C-2 D-1

1. Symposium (A) → A set of formal speeches on a selected topic (3).
2. Panel discussion (B) → A discussion among speakers (4).
3. Workshop (C) → A hands-on session aiming at arriving at a plan or solution (2).
4. Role-play (D) → A dramatized depiction of a real-life situation (1).

101. (d) Dichlorvos

Common larvicides for mosquito control include Abate (temephos), Paris green (copper acetoarsenite), and Fenthion. Dichlorvos (DDVP) is more often used as a fumigant or space spray against adult insects and not typically applied as a larvicide. Hence, among the listed options, dichlorvos is not employed for killing larvae in water.

102. (b) A common single source for prolonged periods

A classic scenario for waterborne hepatitis (often Hepatitis E or A) involves a continuous common source, e.g., a persistently contaminated water supply. If 60% of cases cluster in July but the outbreak spans June to August, it suggests a prolonged exposure rather than a brief point source. Multiple or short-time exposures are less likely given the 3-month duration.

103. (c) Mid–arm circumference

Measuring mid-upper arm circumference (MUAC) is a quick, reliable field method for identifying acute undernutrition in children aged 1–5 years. It requires minimal equipment and correlates well with muscle mass and subcutaneous fat. Other anthropometric indices (weight for age, height for age, weight for height) are more accurate but require scales, stadiometers, or growth charts and more time-consuming procedures.

104. (a) Birth weight

Low birth weight is a pivotal determinant of neonatal and infant survival. Babies born with low weight (often <2500 g) face higher risks of infection, hypothermia, and other complications. While maternal age, birth order, and birth interval also affect outcomes, birth weight has the most direct impact on immediate infant mortality.

105. (d) T.B. death rate per 100,000 children (0 – 4 years of age)

The Millennium Development Goals (MDGs) included targets for reducing maternal mortality, reducing under-five mortality, and combatting malaria (e.g., measuring incidence/death rates in children). They also address TB, but not specifically "TB death rate per 100,000 children aged 0–4." Instead, the MDGs referred

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46. The ferning of cervical mucus is due to the high concentration of :
(a) Sodium chloride
(b) Potassium chloride
(c) Sodium bicarbonate
(d) Potassium bicarbonate

47. A pregnant woman in IIIrd trimester has normal blood pressure in the arms when standing and sitting but drops to 90/50 when lying down. What is the likely cause ?
(a) Compression of uterine artery
(b) Compression of aorta
(c) Compression of inferior vena cava
(d) Compression of internal iliac artery

48. Which one of the following statements is not correct about foetal circulation ?
(a) Umbilical artery carries oxygenated blood to the fetus
(b) Umbilical vein carries oxygenated blood to the fetus
(c) Umbilical artery carries deoxygenated fetal blood to the placenta
(d) Two umbilical arteries and one umbilical vein traverse through umbilical cord between the fetus and placenta

49. Which of the following is a contra-indication for breast feeding ?
(a) Maternal diarrhoea
(b) 1st 24 hours after Caesarean section
(c) Maternal tuberculosis
(d) None of the above

50. Meconium aspiration syndrome can be prevented by taking the following measures except :
(a) Amnioinfusion
(b) Oropharyngeal suctioning
(c) Suctioning of trachea through laryngoscope
(d) Delivering the baby by emergency caesarean section

NODIA

51. A 15-year old unmarried girl comes with history of dysmenorrhoea. Age of menarche is 12 years. Per abdominal and per rectum examination reveal nothing abnormal. You will treat the patient with :
(a) Antibiotics
(b) Hormones
(c) Reassurance and giving antispasmodics throughout the month
(d) Reassurance and giving antispasmodics during menses

52. A pregnant lady with 37 weeks gestation has been admitted with history of premature rupture of membranes for 6 hours. She is best treated with :
(a) steroids followed by labour induction
(b) steroids and antibiotics
(c) steroids and tocolytic agents
(d) antibiotics followed by labour induction

53. Use of ventose is preferred over forceps in the delivery of :
(a) occipito posterior position
(b) after coming head in breech
(c) face presentation
(d) foetal distress

54. Normal pH of foetal scalp blood is :
(a) 7.0
(b) 7.10
(c) 7.20
(d) 7.30

55. Face to pubis delivery is common in which type of pelvis ?
(a) Android
(b) Gynaecoid
(c) Anthropoid
(d) Platypelloid

56. The following are the signs of placental separation except :
(a) The uterus becomes hard and globular
(b) Permanent lengthening of the cord
(c) The fundal height decreases
(d) Fresh bleeding occurs

114. (a) Japanese encephalitis

Japanese encephalitis (JE) typically circulates in a pig–mosquito–pig cycle, predominantly involving Culex mosquitoes (often Culex tritaeniorhynchus). Humans are an incidental or "dead-end" host; once infected, they generally do not spread the virus further to mosquitoes. Chikungunya and some other arboviral diseases can involve different vector–host cycles, but the classic scenario of pig reservoirs and Culex vectors with humans as incidental hosts is characteristic of JE.

115. (c) Referring those children with enlarged tonsils for surgery

While anemia screening warrants iron supplementation and high worm infestation rates justify mass deworming, only a small minority of enlarged tonsils truly need surgical intervention (tonsillectomy). Typically, children with enlarged tonsils undergo further ENT evaluation to assess recurrent infections or obstructive symptoms. Immediate blanket referral for surgery is not appropriate. Additionally, prescribing spectacles for poor vision is a straightforward intervention once refractive errors are confirmed.

116. (c) Disability

Sullivan's index is used to compute "disability-free life expectancy." It integrates both mortality data (life expectancy) and disability prevalence. In essence, it estimates how many years of life a population may expect to live free from disability. This distinguishes it from basic mortality measures (like crude death rate or life expectancy alone) or general morbidity indicators.

117. (a) Culex tritaeniorhynchus

Culex tritaeniorhynchus is the principal vector of Japanese encephalitis. These mosquitoes breed in rice fields and rural water collections. Anopheles species primarily transmit malaria, Aedes aegypti spreads dengue and chikungunya, and Mansonoides can transmit filarial infections in certain regions. Therefore, Culex tritaeniorhynchus is uniquely noted for the pig–mosquito–human cycle of JE.

118. (a) Subcutaneous

The standard, recommended approach for measles vaccination (e.g., the measles component in MMR) is subcutaneous injection, typically in the upper arm's outer aspect. Intradermal application is used for BCG (and some diagnostic tests), intravenous administration is not appropriate for live vaccines, and intranasal routes are used for select vaccines (like certain influenza types).

119. (c) All HIV positive mothers transmit infection to their newborn children.

Vertical transmission (mother-to-child) of HIV is not inevitable—modern interventions (antiretroviral therapy, safe delivery practices, and avoidance of breastfeeding in certain contexts) can drastically reduce perinatal HIV transmission to well below 30%. HIV indeed does not transmit via casual fomites; every infected individual typically needs ART at some stage under current guidelines; and transfusion of truly HIV-positive blood is extremely high risk (close to 100%). Hence, (c) is false.

120. (c) Maternal diabetes increases the risk of subsequent diabetes.

Children born to diabetic or hyperglycemic mothers face an increased lifetime risk of glucose intolerance and diabetes, partly via genetic predispositions and in-utero metabolic influences. Diabetes is strongly associated with increasing age and central obesity (the classic metabolic risk profile), and men and women have fairly comparable type 2 diabetes risk (with slight demographic variations). Therefore, statement (c) accurately describes an established epidemiological fact, whereas the other claims are incorrect.

END

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24. The nerve most likely to get injured in patients with fracture of upper end of radius is :
(a) Median
(b) Ulna
(c) Radial
(d) Posterior interosseous

25. A 65-year old patient presents with obstructive jaundice and 15 kg weight loss. An ultrasound shows a 4 cm mass in the head of the pancreas with dilated bile ducts. Further work up includes a helical CT scan. The study shows several lesions consistent with metastasis in the right and left lobes of the liver and encasement of gastro duodenal artery. The most appropriate treatment would be :
(a) Pancreaticoduodenectomy (Whipple procedure)
(b) Total pancreatectomy
(c) Endoscopic stenting of bile duct
(d) Biliary and gastric bypass

26. Laparoscopic instruments are best sterilized by :
(a) Autoclaving
(b) Hot air oven
(c) 2% Glutaraldehyde
(d) Ethylene oxide

27. Primary hyperaldosteronism presents with all of the following except :
(a) Hypertension
(b) Hyperkalemia
(c) Periodic paralysis
(d) Frontal headache

28. Consider following statements in respect of parenteral nutrition :
1. indicated in patients when enteral nutrition cannot be given
2. parenteral route is a better choice than enteral route
3. abnormalities of liver functions can occur on prolonged use
4. hyperglycemia is common

Which of the above statements are correct ?
(a) 1, 2, 3 and 4
(b) 1, 3 and 4 only
(c) 1, 2 and 3 only
(d) 2, 3 and 4 only

29. The 'claw sign' in barium enema study favours the diagnosis of :
(a) Intussusception
(b) Sigmoid volvulus
(c) Crohn's disease
(d) Gastro colic fistula

30. A 32 year-old male patient presents in casualty department with history of RTA one hour back; on examination is found that BP is 90/50 mm Hg, pulse rate 110 beats per minute, with fracture left lower ribs, and generalized distension of abdomen with guarding and rigidity. He also complained of pain on the tip of the left shoulder. As a casualty Medical Officer you must exclude which one of the following clinical conditions on the primary basis ?
(a) Cardiac tamponade
(b) Intestinal perforation
(c) Rupture left lobe of liver
(d) Splenic rupture

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31. The treatment of choice for congenital hypertrophic pyloric stenosis is :
(a) Heller's operation
(b) Duodenojejunostomy
(c) Ramstedt's operation
(d) Gastrojejunostomy

32. Carcinoma of pyriform fossa usually presents with :
(a) Cough
(b) Hoarseness
(c) Lump in the neck
(d) Dysphagia

33. Pelvic abscess can present with all symptoms except :
(a) fever
(b) pain abdomen
(c) bleeding rectum
(d) diarrhea with mucus discharge

12. The most common early sign of increasing intracranial pressure in the victim of head injury is :
(a) Change of level of consciousness
(b) Ipsilateral pupillary dilatation
(c) Contralateral pupillary dilatation
(d) Hemiparesis

13. Protein metabolism after trauma is characterized by all of the following except :
(a) Increased liver gluconeogenesis
(b) Inhibition of skeletal muscle break down by interleukin 1 and tumour necrosis factor
(c) Increase urinary nitrogen loss
(d) Hepatic synthesis of acute phase reactants

14. Deep vein thrombosis of calf is best managed by :
(a) anticoagulants
(b) thrombolysis
(c) surgical venous thrombectomy
(d) active physiotherapy

15. All of the following cranial nerves pass through the jugular foramen except :
(a) Glossopharyngeal
(b) Vagus
(c) Spinal accessory
(d) Hypoglossal

16. Most common cause of intestinal obstruction in childhood is :
(a) Intussusception
(b) Hirschsprung's disease
(c) Volvulus
(d) Mucoviscidosis

17. Surgical treatment for a 40-years old lady with 3 × 3 cm. papillary carcinoma thyroid with level III enlarged lymph nodes is :
(a) Total thyroidectomy with excision of involved nodes
(b) Total thyroidectomy with radical neck dissection
(c) Total thyroidectomy with functional neck dissection
(d) Total thyroidectomy with post-operative radio-iodine ablation

18. To differentiate pancreatic ascites from ascites secondary to cirrhosis of the liver, the most important test is :
(a) Abdominal ultrasound
(b) Computed tomogram (CT) scan
(c) Abdominal paracentesis
(d) Endoscopic retrograde cholangio pancreatography (ERCP)

19. Which of the following ligaments contains splenic artery ?
(a) Gastro-splenic ligament
(b) Spleno-colic ligament
(c) Spleno-renal ligament
(d) Spleno-phrenic ligament

20. Splenectomy is best indicated for :
(a) Hereditary spherocytosis
(b) Gaucher's disease
(c) Cirrhosis liver with portal hypertension
(d) Sickle cell disease

21. A retained stone in CBD (common bile duct) diagnosed by T-tube cholangeogram is best treated by :
(a) Dissolution therapy
(b) Re-exploration of common bile duct
(c) Extra corporeal shock wave lithotripsy
(d) Endoscopic papillotomy

22. All of the following statements regarding gallstones are true except :
(a) Mixed stones are the commonest type
(b) They are mostly radio opaque
(c) They can cause intestinal obstruction
(d) They can lead to acute cholangitis by slipping into the common bile duct

23. Pancreatic calculi are composed of :
(a) Calcium phosphate
(b) Calcium carbonate
(c) Calcium oxalate
(d) Calcium bilirubinate

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to general TB prevalence, incidence, and death rates in the broader population.

106. (d) Case fatality rate

Case fatality rate (CFR) is the proportion of cases of a particular condition that result in death. A high CFR indicates a more severe or lethal disease. Relative risk, attributable risk, and incidence rate measure other epidemiological parameters (risk comparisons, contribution of a factor, or new cases over time) rather than disease severity.

107. (d) Local level

A spot map visually plots individual cases (often on a neighborhood or street map) to identify clusters or distribution patterns of disease in a local setting. John Snow's historic cholera map of London is a classic example. Spot maps are less about large-scale (national/international) epidemiology and more about pinpointing precise locations (e.g., houses, blocks) of cases to detect localized outbreaks or environmental correlations.

108. (b) B.C.G.

Bacillus Calmette–Guérin (BCG) is a live attenuated vaccine derived from Mycobacterium bovis. It retains enough antigenicity to stimulate an immune response without causing typical disease in immunocompetent hosts. DPT contains toxoids (not live organisms), Hepatitis B vaccine is a subunit vaccine, and TAB (for typhoid) is generally inactivated. Thus, BCG is the only live attenuated example among these choices.

109. (b) (True negatives X 100) / (True negatives + False positives) %

Specificity measures a test's ability to correctly identify those without the disease. It is defined as:

A high specificity means few healthy (disease-free) individuals are misclassified as having the disease (false positives). Other provided formulas either refer to sensitivity (TP / [TP+FN]) or mix up correct denominators.

NODIA

110. (d) Control subjects are selected from the current population without exposure.

A historical (retrospective) cohort study identifies subjects and exposures from past records, and outcomes also often have already occurred by the time the study begins. This shortens study duration because investigators do not wait for future outcomes. Both exposed and non-exposed groups come from the same historical data, not by recruiting today's "exposure-free" individuals. Therefore, statement (d)—implying current, non-exposed controls—is not characteristic of a historical cohort.

111. (d) 2 and 4 only

Rubella (German measles) typically has an incubation of about 2–3 weeks (2) and is classically associated with posterior auricular (postauricular) and suboccipital lymph node enlargement (4). A false membrane in the throat (3) is more typical of diphtheria, not rubella. While rubella's rash may appear soon after onset, it is more accurate to note a short prodrome rather than an immediate rash within 24 hours (1 can be misleading). Hence, statements 2 and 4 are the established features.

112. (b) 1 and 4 only

Iodine solutions (e.g., tincture of iodine) are commonly used for water purification in emergencies and for skin disinfection (e.g., surgical prep). They are not routinely employed to disinfect feces or urine, where other methods (chemical toilets, lime treatment, or specialized disposal systems) are used. Thus, among the listed options, iodine's established uses are water purification (1) and skin antisepsis (4).

113. (c) 1 and 2 only

In statistics, standard deviation (1) and range (2) quantify dispersion (how spread out the data are). Mode (3) and median (4) are measures of central tendency, used to characterize where data cluster, not their spread. Hence, the correct set of dispersion measures from the list is only standard deviation and range.

34. Femoral hernias are more common in females because :
(a) femoral canal is long
(b) femoral canal is wide
(c) ligaments of femoral canal neck are weak
(d) weakness of post Inguinal wall

35. The most common ocular lesion peculiar to HIV infection in early stage is :
(a) Soft exudates in retina
(b) Retinal haemorrhages
(c) Retinal necrosis
(d) Kaposi's sarcoma

36. Consider the following statements in respect of prostatic carcinoma :
1. Most originate from peripheral zone
2. Prostatic needle biopsy is better performed under trans rectal ultrasound
3. Prostate specific antigen is the specific test
4. L.H.R.H. analogues are used as medical treatment for metastatic disease
Which of the statements given above is/are correct ?
(a) 1 and 2 only
(b) 2, 3 and 4
(c) 1 and 3
(d) 1, 2 and 4

37. Regarding varicocele, all of the following are true except :
(a) Varicosity of cremasteric veins
(b) Left side is affected usually
(c) Feels like a bag of worms
(d) May lead to infertility

38. The commonest complication of fracture of clavicle is :
(a) malunion
(b) non union
(c) a vascular necrosis
(d) Neurovascular injury

39. The most frequent complication of fracture pelvis is injury to :
(a) penile urethra
(b) membranous urethra
(c) urinary bladder
(d) rectum

40. Burns involving the head and neck region are particularly dangerous because :
(a) Face is a very vascular area
(b) There may be thermal damage to the respiratory passage
(c) Renal failure is more frequent
(d) Blood loss may be more severe

41. Pregnancy is characterized by the following physiological changes except :
(a) Delayed gastric emptying time
(b) Dilatation of ureters
(c) Decreased glomerular filtration rate
(d) Increased tidal volume

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42. Donovan bodies are associated with :
(a) Gonorrhoea
(b) Herpes genitalis
(c) Chlamydia trachomatis infection
(d) Granuloma inguinale

43. During pregnancy, vaccination can be given against all these diseases except :
(a) Hepatitis A
(b) Tetanus
(c) Mumps
(d) Hepatitis B

44. What is the likely cause of primary amenorrhoea together with retention of urine in an adolescent girl ?
(a) Turner's syndrome
(b) Adrenal hyperplasia
(c) Haematocolpos
(d) Testicular Feminizing syndrome

45. Histological type of endometrium that is suggestive of ovulation is :
(a) proliferative phase
(b) secretory phase
(c) cystic glandular hyperplasia
(d) adenomatous hyperplasia

QUESTION PAPER 2013

1. The commonest site for thyroglossal cyst is :
   (a) Suprahyoid
   (b) Subhyoid
   (c) Foramen caecum
   (d) Submentum

2. Factors important in the formation of gall stones include all of the following except :
   (a) Cholesterol saturation in bile
   (b) Gall bladder motility
   (c) The size of micelles
   (d) Obesity

3. Universal precautions to be followed by the surgical team include all of the following except :
   (a) Wearing double gloves
   (b) Downing water repellant gown
   (c) Wearing boots
   (d) Prophylactic antimicrobials

4. The clinical signs of brain-stem death include all of the following except :
   (a) Profound hypotension
   (b) Absence of spontaneous respiration
   (c) Absent oculo-vestibular reflex
   (d) Absence of pharyngeal reflex

5. Non-cardiac cause of raised central venous pressure include all of the following except :
   (a) Abdominal compartment syndrome
   (b) Tension pneumothorax
   (c) Positive pressure ventilation
   (d) Hyper-volemia

6. Which one of the following fractures is most often complicated by fat embolism ?
   (a) Lumbar vertebrae
   (b) Supra condyler humerous
   (c) Shaft of femur
   (d) Shaft of tibia

7. A 25-years old patient has 5 × 5 cm amoebic abscess in right lobe of liver. He is febrile and has pain right hypochondrium. His primary management would include :
   (a) Laparotomy and drainage
   (b) Ultra-sound guided aspiration
   (c) Ultra-sound guided placement of pigtail catheter
   (d) Administration of antibiotic and observation

8. The surgical complications of typhoid fever include all of the following except :
   (a) Perforation peritonitis
   (b) Acute cholecystitis
   (c) Splenic abscess
   (d) Acute pancreatitis

9. The complications of ascaris lumbricoides infestation include all of the following except :
   (a) acute intestinal obstruction
   (b) lower gastro intestinal bleed
   (c) cholangitis and obstructive jaundice
   (d) pancreatitis

10. Treatment of choice for acute femoral artery embolism is :
   (a) Heparin
   (b) Warfarin
   (c) Immediate embolectomy
   (d) Embolectomy after rest for few days

11. Most common manifestation of Wilm's tumour is :
   (a) Haematuria
   (b) Abdominal mass
   (c) Hypertension
   (d) Loss of weight

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57. The following conditions are associated with molar pregnancy except :
(a) Pregnancy induced hypertension
(b) Thyrotoxicosis
(c) Gestational diabtets
(d) Hyperemesis gravidarum

58. What is the commonest cause of retention of urine at 12-14 weeks of pregnancy ?
(a) Impacted pelvic tumour
(b) Retroverted gravid uterus
(c) Diminished bladder tone
(d) Prolapse of uterus

59. Which of the following is a uterine compression suture during management of atonic post partum haemorrhage ?
(a) Sturmdorf suture
(b) B-Lynch suture
(c) Fothergill's suture
(d) Moscowitz suture

60. Which of the following anti-hypertensive drugs is/are best avoided during pregnancy ?
(a) Labetalol
(b) Nifedipine
(c) Alpha methyl dopa
(d) Angiotensin converting enzyme inhibitors

61. The hormone Relaxin of pregnancy is secreted by :
(a) Vagina
(b) Ovary
(c) Fallopian tube
(d) Pituitary gland

62. Complications of heparin therapy in pregnancy include all except :
(a) Thrombocytopaenia
(b) Osteoporosis
(c) Bleeding
(d) Teratogenicity

63. Misoprostol can be used during pregnancy by the following routes except :
(a) Intravenous
(b) Oral
(c) Vaginal
(d) Sub-lingual

64. Following are the contraindications for laparoscopic female sterilization except :
(a) Heart disease
(b) Obesity
(c) Respiratory dysfunction
(d) Hiatus hernia

65. Mifepristone used for inducing abortion acts on :
(a) Hypothalamopituitary ovarian axis
(b) Uterine contractility
(c) Progesterone receptors
(d) All the above

66. A man underwent vasectomy, but 6 months later his wife was 16 week pregnant. What is the most likely cause ?
(a) Failure of operative procedure
(b) Pregnancy antedating vasectomy
(c) Recanalisation of vas
(d) Failure to use additional contraception in postoperative period

67. Which method of vasectomy has the highest failure rate ?
(a) Open ended vasectomy with granulation formation
(b) Cutting and ligating vas to occlude the proximal and distal lumen
(c) Use of hemoclips with 1-4 cm gap after cutting proximal and distal ends
(d) Cutting the vas and turning the ends backwards and ligating with suture material

NODIA

68. All of the following are eligibility criteria for female sterilization except :
(a) Client's age should not be less than 22 years or more than 49 years
(b) Client should be married

PAPER 2013 ANSWERS

1. (b) Subhyoid

Thyroglossal cysts arise from remnants of the thyroglossal duct, which typically follows the tract of the embryonic thyroid descent. While they can occur anywhere along that tract (from the foramen cecum at the tongue base down to the thyroid gland in the neck), most commonly they present just below the hyoid bone—i.e., in the subhyoid region. Surgical removal via the Sistrunk procedure confirms how often they localize around the midline near the hyoid, making the subhyoid site the usual location.

2. (c) The size of micelles

Gallstone formation (cholelithiasis) commonly involves abnormalities in cholesterol saturation of bile, changes in gallbladder motility (stasis), and risk factors like obesity, female gender, and certain diets. These disruptions foster precipitation of crystals that grow into stones. While micelles do help solubilize components in bile, the "size of micelles" is not considered a key determinant of stone formation in standard pathophysiology. Instead, the main issues are cholesterol supersaturation, poor gallbladder emptying, and altered bile composition, making (c) the least relevant factor.

3. (d) Prophylactic antimicrobials

Universal precautions aim to reduce exposure to blood and bodily fluids through use of barriers such as gloves, gowns, masks, and boots. These measures protect both patient and healthcare workers from infections (e.g., HIV, hepatitis). While double gloving, water-repellent gowns, and protective footwear are standard, routine prophylactic antimicrobials for every procedure are not part of universal precautions. Antibiotics may be used selectively for specific procedures or risk profiles, but they are not a blanket requirement under "universal precaution" guidelines.

4. (a) Profound hypotension

Brain-stem death is defined by coma, loss of all brain-stem reflexes, and inability to breathe spontaneously (no respiratory drive on apnea testing). Key findings include absent cranial nerve reflexes (pupillary, corneal, oculo-vestibular, gag reflex) and no spontaneous respirations. While cardiovascular instability can occur, "profound hypotension" is not a required clinical sign or a strict diagnostic criterion for brain-stem death. The hallmark is the irreversible cessation of brain-stem function rather than blood pressure changes, which may or may not be present.

5. (d) Hyper-volemia

Central venous pressure (CVP) can be elevated by cardiac as well as non-cardiac causes. Mechanical factors like tension pneumothorax, positive pressure ventilation, or abdominal compartment syndrome can impede venous return, thereby raising CVP without direct cardiac pathology. Hypervolemia (excess circulating fluid volume), while it does raise CVP, is typically classified under volume overload rather than purely "non-cardiac mechanical" causes. In many classifications, fluid overload can blur lines with cardiac function, so among the listed options, hypervolemia is the least fitting "non-cardiac" cause.

6. (c) Shaft of femur

Fat embolism syndrome arises when fat droplets enter circulation, typically after traumatic fractures involving long bones with large marrow contents. The femoral shaft has extensive marrow space, making shaft-of-femur fractures most notorious for fat embolism. Once the marrow fat is dislodged, it can travel to the pulmonary microcirculation (and sometimes systemic circulation), leading to respiratory distress, neurologic symptoms, and a petechial rash. While fat embolism can theoretically occur in other fractures, femoral shaft breaks have the highest incidence.

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(d) Medical (non-maternal) death

79. In a woman using an intrauterine contraceptive device (IUCD) an intrauterine pregnancy occurs and the IUCD threads are visible. What is the reason to recommend removal of the device ?
(a) To prevent the risk of subsequent septic abortion and preterm labour
(b) To prevent congenital abnormality of the newborn
(c) To prevent post partum haemorrhage
(d) To prevent perforation

80. Success of tubal re-canalization is best with :
(a) Pomeroy's technique
(b) Laparoscopic ring application
(c) Fimbrietomy
(d) Uchida's technique

81. The amount of previously unrecognized disease that is diagnosed as a result of the screening effort is known as :
(a) Predictive accuracy
(b) Reliability
(c) Yield
(d) Validity

82. The total osmolarity of new oral rehydration solution formulation is :
(a) 210 mmol/litre
(b) 245 mmol/litre
(c) 255 mmol/litre
(d) 300 mmol/litre

83. Which one of the following is not consistent with Aedes egypti's life cycle ?
(a) Breeds in artificial collection of water
(b) Eggs are boat shaped
(c) Larva has siphon tube
(d) Wings unspotted in the adult

84. The National Health Policy 2002 target to be achieved by the year 2010 is :
(a) Eradication of polio and yaws
(b) Elimination of leprosy
(c) Achieve zero level growth of HIV/AIDS
(d) Reduce infant mortality rate 30/1000 live births

85. One of the following is not a characteristic of causal association :
(a) Coherence
(b) Specificity
(c) Sensitivity
(d) Biological plausibility

86. Discarded tablets are disposed off in :
(a) Yellow plastic bag
(b) Red plastic bag
(c) Blue plastic bag
(d) Black plastic bag

NODIA

87. In a village of 5,000 population, 50 persons suffered from cholera and 10 persons died. What will be the case fatality ratio ?
(a) 0.2%
(b) 1.0%
(c) 5.0%
(d) 20.0%

88. One of the following diseases has more than one route of transmission :
(a) Influenza
(b) Leprosy
(c) Cholera
(d) Typhoid fever

89. Serial interval is the gap between :
(a) Primary and secondary case
(b) Index and primary case
(c) Introduction of infection and development of maximum infectivity
(d) Transmission of infection from patient to another susceptible host

90. The best indicator for a potential explosiveness of plague outbreak is :
(a) Total flea index
(b) Cheopis index
(c) Specific percentage of fleas
(d) Burrow index

(c) Client or her spouse must not have undergone sterilisation in the past
(d) At least two living children should be present

69. During the first 6 months of the gestation, which amongst the following contraceptives is not advisable?
(a) DMPA
(b) Combined oral contraceptive pills
(c) Progestin only pills
(d) Norplant

70. Oral contraceptives may provide protection against the following malignancies except :
1. Cervical cancer
2. Endometrial cancer
3. Ovarian cancer
Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3
(c) 3 only
(d) 1 and 3

71. The following drugs are effective in the management of menorrhagia except :
(a) Non-steroidal anti-inflammatory drugs
(b) Progestational agents
(c) Prostaglandins
(d) Anti-fibrinolytic drugs

72. Out of the following, select the histologic type of cancer endometrium which has the worst prognosis :
(a) Mucinous adeno carcinoma
(b) Well differentiated endometroid adeno carcinoma
(c) Clear cell carcinoma
(d) Papillary serous carcinoma

73. What is the commonest cause of Vulvo-Vaginal Fistula in developing countries ?
(a) Radiotherapy for treatment of carcinoma cervix
(b) Obstructed labour
(c) Injury during hysterectomy
(d) Carcinoma of bladder

74. A 28-year old woman comes with infertility. Husband's semen analysis is normal. Endometrial biopsy shows secretory changes with no evidence of tuberculosis. On hysterosalpingography both tubes show tubal blockage. What should be the next step in management ?
(a) Tuboplasty
(b) Diagnostic laparoscopy and chromopertubation
(c) IVF
(d) ICSI

75. Which of the following statements is true for maternal rubella infection ?
(a) It leads to abortions before 16 weeks of gestation
(b) 24% incidence of congenital infection if acquired during the last month of pregnancy
(c) It causes blindness with recurrent infection
(d) The primary infection is responsible for birth defects

76. Contraindications for medical abortions are all except:
(a) Age more than 35 years
(b) Hemoglobin less than 8 gm%
(c) Undiagnosed adnexal mass
(d) Uncontrolled seizure disorder

77. In an RH negative mother who has delivered an RH positive baby, prophylactic anti-D is indicated :
(a) As a routine procedure in all cases
(b) If indirect Coombs' test is positive
(c) If indirect Coombs' test is negative
(d) If direct Coombs' test is positive

78. A woman dies from a heart disease six days after delivery. This would come under the category of :
(a) Unclassified death
(b) Indirect maternal death
(c) Direct maternal death

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103. The useful fertility indicator where birth registration statistics do not exist or are inadequate is :
(a) Abortion rate
(b) Child-woman ratio
(c) Male-female ratio
(d) Net reproduction rate

104. The Disability Adjusted Life Years (DALYs) lost due to neuropsychiatric disorders is highest in :
(a) Bipolar affective disorders
(b) Unipolar depressive disorders
(c) Panic disorder
(d) Obsessive compulsive disorder

105. Direct mailing as a means of communication, is an example of :
(a) Individual approach
(b) Group approach
(c) Mass approach
(d) Two way communication

106. Autosomal recessive disorders include all, except :
(a) Sickle cell anaemia
(b) Retinoblastoma
(c) Albinism
(d) Hirschsprung disease

107. Which of the following is X-linked dominant trait ?
(a) Haemophilia-A
(b) Colour blindness
(c) Vitamin D resistant rickets
(d) Duchenne muscular dystrophy

108. Mansonioides mosquito transmits the following disease :
(a) Bancroftian filariasis
(b) Brugian filariasis
(c) Malaria
(d) Dengue

109. Kuppu Swamy Socio-economic Status Scale comprises of :
(a) Education, family size and housing
(b) Education, occupation and housing
(c) Income, family size and land holding
(d) Education, occupation and income

110. Failure rate of contraceptive method is determined by :
(a) Half life index
(b) Pearl index
(c) Total fertility rate
(d) Age specific fertility rate

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111. Which of the following drugs is not used for chemo prophylaxis of malaria ?
(a) Chloroquin
(b) Proguanil
(c) Artesunate
(d) Mefloquin

112. The net reproduction rate of 1 can be achieved only if the following rate exceeds 60% :
(a) Total fertility rate
(b) Total marital fertility rate
(c) Age specific marital fertility rate
(d) Couple protection rate

113. According to the new guidelines, the Body Mass Index cut off for overweight is :
(a) ≥ 18
(b) ≥ 25
(c) ≥ 30
(d) ≥ 35

114. Horrock's apparatus is used to measure :
(a) Free chlorine
(b) Combined chlorine
(c) Free and combined chlorine
(d) Chlorine demand

115. Among the causes of maternal mortality, which of the following is correct in descending order of maternal deaths in India ?
(a) Haemorrhage, obstructed labour, abortion, sepsis
(b) Obstructed labour, haemorrhage, abortion, sepsis
(c) Sepsis, obstructed labour, abortion,

91. Tuberculous pericarditis is included in which treatment category of DOTS strategy ?
(a) Category I
(b) Category II
(c) Category III
(d) Category IV

92. Vision 2020 India includes all of the following except :
(a) Refractive errors
(b) Cataract
(c) Glaucoma
(d) Epidemic conjunctivitis

93. The most sensitive index for surveillance of malaria transmission is :
(a) Spleen rate
(b) Parasite density index
(c) Infant parasite rate
(d) Proportional case rate

94. Chandler's index is used in :
(a) Cholera
(b) Typhoid
(c) Round worm infestation
(d) Hook worm infestation

95. Integrated management of neonatal and childhood illness includes all except :
(a) Malaria
(b) Pneumonia
(c) Diarrhoea
(d) Tuberculosis

96. Toxic shock syndrome occurs after one of the following vaccinations :
(a) DPT
(b) Recombinant DNA Vaccine against Hepatitis B
(c) Oral polio vaccine
(d) Measles vaccine

97. The health indicator obtained by dividing height by cube root of weight is :
(a) Quetelet's index
(b) Brocca index
(c) Corpulence index
(d) Ponderal index

98. What is the method of sampling in which the units are picked up at regular intervals from the universe ?
(a) Simple random sampling
(b) Systematic random sampling
(c) Stratified random sampling
(d) Snow-ball sampling

99. Child starts speaking short sentences by the age of :
(a) 12 months
(b) 15 months
(c) 24 months
(d) 36 months

100. A village has a total of 100 under-five children. The coverage with measles vaccine in these age groups is 60%. Following the occurrence of a measles case in a child after a visit outside, twenty six children developed measles later. The secondary attack rate of measles is :
(a) 16.6%
(b) 26.0%
(c) 65.0%
(d) 66.6%

101. The method of choice for purification of highly polluted water on a large scale is :
(a) Boiling and chlorination
(b) Chlorination only
(c) Super-chlorination followed by de-chlorination
(d) Ultraviolet light treatment

102. Dehydration is not a feature of one of the following diseases :
(a) Cerebral malaria
(b) Pertussis
(c) Cholera
(d) MDR-TB

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haemorrhage
(d) Haemorrhage, sepsis, abortion, obstructed labour

116. The order of priority of immunization strategy to prevent congenital rubella infection from first to last is :
(a) Infants → children 1-14 years → women of reproductive age group
(b) Infants → women of reproductive age group → children 1-14 years
(c) Women of reproductive age group → Infants → children 1-14 years
(d) Women of reproductive age group → children 1-14 years → Infants

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117. The attitude is a domain of :
(a) cognitive learning
(b) psychomotor learning
(c) affective learning
(d) temporal learning

118. Diethyltoluamide is an effective :
(a) Larvicidal
(b) Agent against pupae of Anopheles
(c) Repellent
(d) Space spray

119. The term Perinatal covers the period from :
(a) 28 weeks gestation to one week after birth
(b) First 4 weeks after birth
(c) 28 weeks gestation to one month after birth
(d) 24 weeks gestation to one week after birth

120. Which of the following is an absolute contraindication for combined contraceptive oral pills ?
(a) Diabetes mellitus
(b) Migraine
(c) Previous history of thrombo-embolism
(d) Gall bladder disease

END

7. (d) Administration of antibiotic and observation

In an uncomplicated amoebic liver abscess of moderate size (around 5 cm), the usual first-line treatment is a course of an anti-amoebic agent (commonly metronidazole). Many abscesses respond promptly, reducing in size and symptoms without invasive intervention. Aspiration or catheter drainage is typically reserved for very large abscesses (often >10 cm), risk of rupture, or inadequate clinical response to medication. Since this patient's abscess is 5 cm and not extremely large, antibiotics and close observation remain the initial standard approach.

8. (d) Acute pancreatitis

Typhoid fever (Salmonella typhi infection) is notorious for abdominal complications. Intestinal perforation (leading to peritonitis) is a well-recognized and critical surgical emergency. The organism can also invade the gallbladder causing cholecystitis, and, although less common, splenic abscesses have been documented. By contrast, acute pancreatitis is rarely encountered in typhoid fever and is not classically listed among its important surgical complications. Therefore, among the given choices, acute pancreatitis stands out as the least typical complication in typhoid.

9. (b) lower gastro intestinal bleed

Ascaris lumbricoides (roundworm) can cause mechanical issues and migrate into ductal systems. Common complications include intestinal obstruction—particularly in heavy infestations—biliary tract invasion leading to cholangitis or obstructive jaundice, and even pancreatic duct invasion precipitating pancreatitis. However, overt lower gastrointestinal bleeding is not characteristically associated with Ascaris infection. While minor mucosal inflammation can occur, significant lower GI hemorrhage is uncharacteristic. Therefore, (b) lower GI bleed does not fit among the recognized complications of roundworm infestation.

10. (c) Immediate embolectomy

Acute limb ischemia from a femoral artery embolism is a vascular emergency that threatens limb viability. While intravenous heparin helps prevent further clot propagation, the definitive intervention is immediate surgical or catheter-based embolectomy to restore arterial flow. Delaying removal of the embolus can cause irreversible ischemic damage. Warfarin is used for longer-term anticoagulation but not for the acute setting. Hence, prompt embolectomy, often in combination with perioperative anticoagulation, is the mainstay of treatment for salvaging the affected limb.

11. (b) Abdominal mass

Wilms' tumor (nephroblastoma) is a renal malignancy primarily affecting young children. The classic presentation is a firm, smooth, unilateral abdominal mass often discovered incidentally by a caregiver. While hematuria, hypertension, and other systemic signs (like weight loss) may occur, they are less consistently present. The asymptomatic abdominal mass is by far the most common initial finding and often prompts imaging studies that confirm the diagnosis. Early detection and management are crucial for favorable long-term outcomes in children with Wilms' tumor.

12. (a) Change of level of consciousness

Following head injury, rising intracranial pressure (ICP) often first manifests as altered mentation—ranging from mild confusion and drowsiness to decreased alertness. Pupillary changes and focal neurological deficits (like hemiparesis) may develop later, but any shift in mental status typically appears earliest. ICP elevations reduce cerebral perfusion, causing subtle or overt changes in consciousness. Monitoring these early signals is critical to prevent secondary brain injury by intervening (e.g., ensuring adequate oxygenation and managing swelling) before severe brainstem signs appear.

13. (b) Inhibition of skeletal muscle break down by interleukin 1 and tumour necrosis factor

After trauma, the body enters a catabolic state: there is increased protein breakdown in muscles (heightened by pro-inflammatory

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cytokines such as IL-1, TNF) and elevated hepatic gluconeogenesis to fuel immune and repair processes. These cytokines actually promote muscle proteolysis, not inhibit it, and also stimulate hepatic acute phase reactants production. The result is negative nitrogen balance and increased urinary nitrogen excretion. Therefore, (b) is incorrect since IL-1 and TNF do not inhibit muscle breakdown; they enhance it.

14. (a) anticoagulants

Calf vein thrombosis is primarily addressed with anticoagulant therapy, most often low molecular weight heparin transitioning to an oral anticoagulant. This helps prevent clot extension and pulmonary embolism. Thrombolysis or surgical thrombectomy tends to be reserved for massive iliofemoral clots or life-/limb-threatening situations. Early mobilization and compression stockings can also reduce complications, but the mainstay treatment to manage and reduce the risk of embolic events in straightforward calf DVT is anticoagulation.

15. (d) Hypoglossal

The jugular foramen transmits cranial nerves IX (glossopharyngeal), X (vagus), and XI (spinal accessory), as well as some vascular structures. The hypoglossal nerve (CN XII) instead passes through the hypoglossal canal in the occipital bone. This distinct route sets it apart from the cluster of nerves traveling through the jugular foramen. Therefore, among the listed options, the hypoglossal nerve (d) does not traverse the jugular foramen, making it the correct "except" choice.

16. (a) Intussusception

Intussusception, in which a segment of bowel telescopes into an adjacent one, is the leading cause of acute intestinal obstruction in children (especially between 6 months and 3 years). It often presents with colicky abdominal pain, a palpable "sausage-shaped" mass, and sometimes "currant jelly" stools. Hirschsprung's disease, volvulus, and cystic fibrosis (mucoviscidosis) do cause obstruction, but less frequently overall compared to intussusception in that age group. Prompt radiologic or surgical reduction is critical to prevent bowel ischemia.

17. (c) Total thyroidectomy with functional neck dissection

Papillary carcinoma thyroid frequently spreads to regional cervical lymph nodes. Current best practice involves total thyroidectomy plus a tailored (often "functional" or "modified radical") neck dissection for clinically involved nodes—reducing recurrence risk while preserving non-lymphatic structures. A full radical neck dissection can be more morbid, removing additional tissue (sternocleidomastoid, accessory nerve, etc.) than necessary. Postoperative radio-iodine may also be considered, but the immediate surgical plan in a patient with palpable nodal disease typically includes total thyroidectomy with a functional neck dissection.

18. (c) Abdominal paracentesis

In suspected pancreatic ascites (often due to pancreatic duct disruption or pseudocyst leakage), fluid analysis via paracentesis is crucial. Measurement of ascitic fluid amylase (and sometimes lipase) helps distinguish pancreatic from cirrhotic ascites. Cirrhotic ascites usually has low amylase with a different protein profile. Imaging like ultrasound or CT scan assists in anatomical assessment, but the definitive functional test for fluid characterization remains paracentesis, which directly evaluates amylase content and thus confirms pancreatic origin.

19. (c) Spleno-renal ligament

The splenic artery (a branch of the celiac trunk) courses along the superior border of the pancreas and enters the spleen through the spleno-renal (lieno-renal) ligament. This ligament stretches between the left kidney and the spleen, transmitting both the splenic artery and splenic vein. The gastro-splenic ligament contains the short gastric and left gastroepiploic vessels, not the main splenic artery. Hence, among the listed options, the spleno-renal ligament is the correct structure housing the splenic artery.

20. (a) Hereditary spherocytosis

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Hereditary spherocytosis involves a red blood cell membrane defect leading to fragile, spherical RBCs prone to hemolysis. Splenectomy is very effective in reducing hemolysis because the spleen is the main site of RBC destruction. While Gaucher's disease, sickle cell disease, and portal hypertension can involve the spleen, splenectomy is less universally indicated for them (though it can be done in certain complications). For hereditary spherocytosis, splenectomy reliably decreases hemolysis, alleviating anemia and related symptoms, making it the best indication.

21. (d) Endoscopic papillotomy

When a T-tube cholangiogram reveals a retained stone in the common bile duct post-cholecystectomy, the least invasive and most effective approach is ERCP (endoscopic retrograde cholangiopancreatography) with endoscopic sphincterotomy (papillotomy). This allows direct visualization and extraction of the stone without another open operation. Dissolution therapy is not typically practical for larger stones, and re-exploration is more invasive. Lithotripsy is rarely necessary unless stones are large or impacted. Thus, endoscopic papillotomy is the primary, minimally invasive solution.

22. (b) They are mostly radio opaque

Most gallstones (particularly cholesterol and mixed stones) are radiolucent, meaning they are not seen on plain X-ray. Only about 10–20% contain sufficient calcium to appear radio-opaque. Gallstones commonly become mixed in composition (cholesterol + pigments), which are the most frequent form. They can migrate into the common bile duct and potentially cause cholangitis or pancreatitis. Large stones can even produce gallstone ileus and intestinal obstruction. Hence, the statement that they are "mostly radio opaque" is incorrect.

23. (b) Calcium carbonate

Chronic pancreatitis can lead to intraductal stone formation. These pancreatic calculi mainly consist of calcium carbonate (often with some phosphate). Prolonged inflammation, altered pancreatic secretions, and protein plugs allow calcium salts to precipitate, eventually solidifying as calculi. Calcium phosphate is more typical of kidney or salivary stones, and calcium bilirubinate is characteristic of pigmented gallstones. Therefore, in chronic pancreatitis, the predominant composition is calcium carbonate, which correlates with the pathophysiological precipitation processes in the pancreatic ducts.

24. (d) Posterior interosseous

The radial nerve divides near the elbow into a superficial (sensory) branch and a deep branch known as the posterior interosseous nerve (PIN). The PIN travels through the radial head region to innervate the extensor muscles of the forearm. Fractures of the proximal radius (especially radial head fractures) are susceptible to injuring the PIN due to its close proximity. This manifests as weakness in finger and wrist extension, while sensation remains largely intact because the superficial radial branch is spared.

25. (c) Endoscopic stenting of bile duct

Because the tumor has metastasized to both liver lobes and involves a major artery, it is unresectable. A Whipple or total pancreatectomy is not appropriate once metastatic disease is evident. The primary goal is palliation—relieving obstructive jaundice, improving quality of life, and possibly alleviating symptoms like pruritus. An endoscopic stent placed across the bile duct stricture can effectively decompress the biliary system without the morbidity of surgery. Thus, endoscopic stenting is the preferred palliative approach.

26. (d) Ethylene oxide

Many laparoscopic instruments contain delicate components and optical elements that can be damaged by high-temperature steam sterilization or prolonged exposure to heat in a hot air oven. Ethylene oxide gas sterilization provides low-temperature penetration, effectively killing microorganisms without harming sensitive materials. While 2% glutaraldehyde is used for high-level disinfection, it may not reliably achieve sterilization for all instrument crevices. Consequently, ethylene oxide remains a gold

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standard for fully sterilizing heat-sensitive endoscopic and laparoscopic devices.

27. (b) Hyperkalemia

In primary hyperaldosteronism (Conn's syndrome), excessive aldosterone drives sodium retention (leading to hypertension) and potassium excretion (causing hypokalemia). Hypokalemia can be severe enough to cause muscle weakness or periodic paralysis. Headaches are common from elevated blood pressure, so frontal headaches can be a complaint. Hyperkalemia, however, contradicts the pathophysiology, which is characterized by excessive renal potassium loss. Therefore, among the listed options, hyperkalemia is the finding that does not match primary hyperaldosteronism.

28. (b) 1, 3 and 4 only

Parenteral nutrition is indeed indicated when enteral feeding is not feasible (statement 1). It often causes abnormal liver function tests (due to cholestasis, fatty infiltration, etc.) if used long term (statement 3), and hyperglycemia is a frequent metabolic complication (statement 4). However, the enteral route is generally preferred whenever possible because it maintains gut integrity and is less costly and less prone to infection. Thus, statement 2 (that parenteral is better than enteral) is incorrect, making 1, 3, and 4 the correct set.

29. (a) Intussusception

On a barium enema, the "claw sign" is classically associated with intussusception, where one segment of bowel telescopes into another. The barium outlines a crescent or claw-shaped projection corresponding to the partially invaginated bowel. Sigmoid volvulus typically shows a "bird's beak" appearance, and Crohn's disease features "string" or "cobblestone" signs. Gastrocolic fistula would present differently (e.g., abnormal connection on imaging). Hence, intussusception is the best match for the claw sign.

30. (d) Splenic rupture

Left shoulder tip pain (Kehr's sign) suggests diaphragmatic or splenic irritation. In the context of left-sided rib fractures, hypotension, and an acute abdomen with guarding, splenic injury becomes a prime concern. The spleen is particularly vulnerable in left lower rib trauma, and if ruptured, can cause hemoperitoneum, shock, and referred pain to the left shoulder. While other injuries (cardiac tamponade, liver rupture, intestinal perforation) must also be considered, splenic rupture is highest on the immediate exclusion list.

31. (c) Ramstedt's operation

Congenital hypertrophic pyloric stenosis presents in infants with projectile vomiting and a palpable "olive" in the epigastrium. The definitive treatment is Ramstedt's pyloromyotomy. This involves surgically splitting the hypertrophied pylorus muscle down to the submucosa, thereby relieving the obstruction. Heller's operation is used for achalasia of the esophagus, while duodenojejunostomy or gastrojejunostomy would bypass the gastric outlet rather than directly correcting the underlying pyloric problem. Ramstedt's operation has a high success rate with minimal complications.

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32. (c) Lump in the neck

Pyriform fossa cancers (part of the hypopharynx) commonly spread early to cervical lymph nodes. Patients often first notice a neck swelling rather than classic throat symptoms. Although hoarseness, dysphagia, or referred otalgia (ear pain) can occur, nodal involvement is frequently the earliest detectable sign. The lymphatic network in the hypopharynx is rich, promoting early metastatic spread. Hence, a painless cervical lump is a frequent presentation of pyriform fossa carcinoma, making (c) lump in the neck the characteristic finding.

33. (c) bleeding rectum

A pelvic abscess typically manifests with fever, lower abdominal or pelvic pain, and sometimes altered bowel habits—like diarrhea with mucus—due to local inflammation. Rectal bleeding, however, is not a typical feature; it is more indicative of mucosal lesions such as hemorrhoids, ulcers, or tumors. While an

abscess might cause localized tenderness and irritative bowel symptoms, frank bleeding from the rectum is uncommon unless there is direct erosion into vascular structures, which is rare.

34. (b) femoral canal is wide

A femoral hernia protrudes through the femoral canal, below the inguinal ligament. In females, the femoral canal is relatively wider due to differences in pelvic structure, making them more prone to femoral hernia formation. Though other factors (like increased intra-abdominal pressure, ligament laxity) play a role, the key anatomical reason is the greater femoral canal width in women compared to men, facilitating the herniation of peritoneal contents through this area.

35. (a) Soft exudates in retina

Early HIV retinopathy commonly appears as cotton wool spots (soft exudates) caused by microinfarcts of the nerve fiber layer. Retinal hemorrhages and necrosis (such as in CMV retinitis) usually occur in more advanced immunocompromised states. Kaposi's sarcoma can affect the conjunctiva or other ocular tissues, but is not the most frequent early ocular manifestation. Thus, soft exudates in the retina are considered the most typical early-stage HIV-related eye finding, reflecting mild microvascular changes.

36. (d) 1, 2 and 4

Prostate cancer typically arises from the peripheral zone (statement 1). Needle biopsy guidance via transrectal ultrasound increases accuracy (statement 2). LHRH analogues (e.g., leuprolide) are indeed used for metastatic disease (statement 4). However, while PSA is a highly used tumor marker, it is not truly "specific," as it can be elevated in benign prostatic hyperplasia or prostatitis. Hence statement 3 is debated in strict terms, making 1, 2, and 4 the best correct combination.

37. (a) Varicosity of cremasteric veins

A varicocele is a dilatation of the pampiniform plexus of veins, not the cremasteric veins. Clinically, it often presents on the left side (because of the left testicular vein drainage into the left renal vein), and on palpation it feels like a "bag of worms." Chronic varicocele can affect spermatogenesis, leading to infertility. The cremasteric veins are separate small vessels in the spermatic cord, so describing a varicocele as "varicosity of cremasteric veins" is incorrect.

38. (a) malunion

Mid-shaft clavicle fractures often heal, but with overlapping segments that create a visible bump or deformity. This "malunion" is very common, especially if the fracture fragments are not well aligned. True non-union is relatively rare, and avascular necrosis is not typical in clavicle fractures. Neurovascular injury is also uncommon unless there is a severe displacement or a direct vascular involvement. Therefore, malunion is indeed the most frequent complication following a clavicle fracture.

39. (b) membranous urethra

Pelvic fractures can tear or stretch the urethra, most commonly the membranous portion (just below the prostate and above the bulbous urethra). This area is relatively fixed in position, making it vulnerable to shearing forces during pelvic fracture. Injury to the bladder or rectum does occur but less frequently. The penile urethra is more distal and at risk in straddle injuries. Thus, the membranous urethra is recognized as the site most often damaged in pelvic fracture.

40. (b) There may be thermal damage to the respiratory passage

Facial burns raise the risk of inhalation injury and airway compromise. Superheated gases and flame can inflame or damage the upper airway, leading to swelling, asphyxia, or pneumonia. While the face is indeed vascular, the immediate life-threatening danger is potential inhalation injury affecting breathing. Renal failure and severe blood loss are not the hallmark complications of head and neck burns specifically. Thus, damage to the respiratory tract is the major concern with burns in this region.

41. (c) Decreased glomerular filtration rate

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but not in "boat-shaped" rafts. Indeed, Aedes larvae possess a siphon tube, and the adult has unspotted wings. The female often exploits artificial containers for breeding. Hence, "boat-shaped" eggs (b) does not describe the egg-laying habit of Aedes aegypti.

84. (d) Reduce infant mortality rate 30/1000 live births

Under India's National Health Policy (2002), specific timelines were set for various public health goals. Polio and yaws were targeted for earlier eradication (by 2005). Elimination of leprosy was similarly aimed around 2005, and the zero-growth target for HIV/AIDS was to be achieved by 2007. By 2010, one key goal was to bring down the infant mortality rate to 30 per 1000 live births. Hence, (d) accurately reflects the NHP 2002 milestone for 2010.

85. (c) Sensitivity

In epidemiology, the classical criteria for inferring causality (often attributed to Bradford Hill) include coherence with existing knowledge, specificity of the association (especially in infectious diseases), biological plausibility, temporality, and others. "Sensitivity," by contrast, is a test-performance property (the probability that a test detects those with disease). It is not a formal criterion used to judge if an exposure is causally related to an outcome. Thus, (c) is not part of standard causal-association characteristics.

86. (a) Yellow plastic bag

Under biomedical waste management rules, pharmaceutical waste (expired or discarded medications) is typically segregated and disposed of in yellow containers or bags. Yellow generally handles anatomical waste, soiled items, and discarded medicines, ensuring they receive appropriate incineration. Red bags are for contaminated recyclable items, blue for glassware or metallic body implants, and black for general waste. Hence, discarded tablets belong in the yellow category for safe, compliant disposal.

87. (d) 20.0%

Case fatality ratio (CFR) is calculated as (deaths from a specific disease ÷ total cases of that disease) × 100. Here, 10 deaths occurred among 50 cholera cases. So CFR = (10 ÷ 50) × 100 = 20%. Note that CFR is not the same as mortality rate in the entire population; it specifically reflects the lethality among those with the disease.

88. (a) Influenza

Influenza can spread via respiratory droplets, aerosols (airborne), and contaminated fomites, making it effectively transmissible through multiple routes. Cholera primarily transmits fecal-orally (contaminated water/food), typhoid similarly spreads via the fecal-oral route, and leprosy is predominantly through long-term droplet contact. Thus, influenza stands out as having more than one common mode of spread.

89. (a) Primary and secondary case

The serial interval is defined as the time (often measured in days) between the onset of symptoms in a primary case and the onset of symptoms in a secondary case. It is crucial for modeling infectious disease spread. It differs from the incubation period, which is the time from infection to symptom onset. Understanding the serial interval helps predict transmission dynamics and evaluate intervention effectiveness.

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90. (b) Cheopis index

Xenopsylla cheopis (the rat flea) is the principal vector of bubonic plague. The "Cheopis index" (flea index for X. cheopis) measures the average number of these fleas per host (e.g., per rat). A high Cheopis index signals a heightened risk for rapid transmission and outbreak potential. Other flea indices exist, but the Cheopis index specifically warns about plague explosiveness due to Xenopsylla cheopis' efficient vector role.

91. (a) Category I

In the RNTCP (Revised National Tuberculosis Control Program), new patients with serious forms of extrapulmonary TB (such as TB meningitis, spinal TB with neurological complications, or TB pericarditis) are treated under Category I. Category II is for re-treatment

The umbilical arteries (branching from the fetal internal iliac arteries) transport deoxygenated blood back to the placenta for reoxygenation. Typically, the cord contains two arteries and one vein. Thus, the statement that the umbilical artery carries oxygenated blood to the fetus is incorrect, as it actually carries deoxygenated blood away from the fetus.

49. (d) None of the above

None of these conditions absolutely contraindicates breastfeeding. Maternal diarrhea is not a bar if hygiene is maintained; C-section does not prevent breastfeeding (it can begin soon after recovery or in the first 24 hours); and maternal tuberculosis is generally not a contraindication if the mother is on appropriate treatment and following infection control measures. True contraindications can include HIV (in certain settings), active untreated TB (until isolation period ends), or use of certain drugs, but not these listed options.

50. (d) Delivering the baby by emergency caesarean section

Meconium aspiration typically occurs if the fetus experiences distress and passes meconium in utero, inhaling it either before or during delivery. Preventive steps include amnioinfusion (to dilute meconium-stained fluid), immediate suctioning of mouth/nose/pharynx upon delivery of the head, and direct visualization/suctioning of the trachea if thick meconium is present. An emergency caesarean section solely to prevent meconium aspiration is not routinely indicated unless there are other obstetric reasons, so (d) is the "except" option.

51. (d) Reassurance and giving antispasmodics during menses

In a young girl with normal pelvic examinations and primary dysmenorrhea, the usual approach is conservative management. Typically, reassurance about the benign nature of her symptoms plus NSAIDs or antispasmodics during menses provides effective pain control. Hormones (e.g., oral contraceptives) can be used if symptoms are severe, but they are not the first step in a mild, otherwise healthy adolescent. Antibiotics have no role unless there is suspicion of infection.

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52. (d) antibiotics followed by labour induction

At 37 weeks, the pregnancy is essentially term, so promoting delivery is safer than expectant management because the risk of ascending infection rises with each hour of ruptured membranes. Prophylactic antibiotics help reduce neonatal and maternal infection (chorioamnionitis). Steroids are generally reserved for gestations under 34–35 weeks to enhance fetal lung maturity, and tocolytics are contraindicated if the fetus is near term with ruptured membranes. Thus, antibiotics plus induction of labor is the recommended approach.

53. (a) occipito posterior position

Vacuum extraction (ventouse) and forceps are both instrumental delivery methods, but ventouse is often chosen for less complicated malpositions such as a moderately low occipito-posterior head or mild deflexions. It can help rotate the fetal head without the traction force required by forceps. Forceps might be faster in acute fetal distress or for delivering the after-coming head in breech. In face presentations, both methods can be difficult. Hence, ventouse is preferred in a typical OP scenario.

54. (d) 7.30

Fetal scalp blood sampling can help assess fetal well-being during labor. A scalp blood pH above about 7.25–7.30 is generally considered reassuring, indicating adequate oxygenation. Values below 7.20 suggest acidemia, prompting intervention (e.g., expedited delivery). Among the given options, 7.30 best represents the normal range for fetal scalp pH. Lower values (7.0 or 7.1) are worrisome for fetal compromise, and 7.20 is borderline, so (d) is the standard normal figure.

55. (c) Anthropoid

"Face to pubis" or persistent occiput-posterior deliveries are classically associated with anthropoid pelvis. This pelvic type has a larger anteroposterior diameter relative to

do not significantly reduce lactation. Combined oral contraceptive pills, which contain estrogen, can diminish milk supply and are customarily avoided until at least 6 weeks to 6 months postpartum (if fully breastfeeding). Hence, (b) is "not advisable."

70. (a) 1 only

Long-term oral contraceptive use is associated with a documented reduction in the risk of endometrial and ovarian cancers. However, epidemiological data indicate that prolonged use of combined oral contraceptives may slightly increase the risk of cervical cancer if there is an existing human papillomavirus infection. Consequently, they do not protect against (and may even predispose to) cervical cancer. Thus, statement "1. Cervical cancer" is the malignancy not protected against; endometrial and ovarian cancers do see protective effects.

71. (c) Prostaglandins

Menorrhagia management frequently involves NSAIDs (they reduce prostaglandin synthesis and menstrual blood loss), progestogens (regulate endometrial shedding and stabilize the lining), and antifibrinolytics (e.g., tranexamic acid) that decrease bleeding. Administering additional prostaglandins would likely intensify uterine contractions and possibly bleeding. The therapeutic goal often involves lowering local prostaglandin levels, not supplementing them. Thus, (c) prostaglandins are not used to control heavy menstrual bleeding and represent the "except" choice.

72. (d) Papillary serous carcinoma

Endometrial carcinomas of the "Type II" group particularly papillary serous and clear cell—tend to be more aggressive and have worse outcomes than "Type I" (endometrioid) tumors. Among the options, papillary serous carcinoma is known for early myometrial and lymphovascular invasion, higher rates of recurrence, and generally poorer survival statistics compared to even clear cell or mucinous variants. Well-differentiated endometrioid adenocarcinomas usually have a comparatively more favorable prognosis.

73. (b) Obstructed labour

In many developing regions, prolonged obstructed labor without timely obstetric intervention leads to pressure necrosis between the fetal presenting part and the maternal soft tissues (bladder, vagina), causing vesicovaginal or other obstetric fistulas. Although hysterectomy injury and radiotherapy are recognized causes in developed settings, prolonged obstructed labor remains the foremost culprit where access to emergency obstetric care is limited. This is a major contributor to maternal morbidity in resource-poor areas.

74. (b) Diagnostic laparoscopy and chromopertubation

An HSG may occasionally yield false-positive results for tubal occlusion due to technical factors or transient tubal spasm. Therefore, the standard next step is to confirm tubal patency (or genuine blockage) by direct visualization using laparoscopic assessment and dye (chromopertubation). If a true obstruction is found, surgical correction or IVF may be considered. Jumping directly to tuboplasty or IVF is premature without laparoscopic confirmation of the HSG findings.

75. (d) The primary infection is responsible for birth defects

Congenital rubella syndrome arises primarily when a non-immune mother acquires a first-time (primary) rubella infection early in pregnancy, leading to possible fetal malformations (e.g., cataracts, cardiac defects, deafness). While rubella can cause miscarriage or stillbirth in some cases, the key concept is that these congenital anomalies generally result from maternal primary infection, especially in the first trimester. Statements about 24% infection late in pregnancy or blindness with recurrent infection are less accurate or incomplete.

76. (a) Age more than 35 years

Medical abortion with mifepristone and misoprostol is contraindicated in certain scenarios: severe anemia (Hb <8 g/dL) because of hemorrhagic risk, suspected ectopic pregnancy (undiagnosed adnexal mass), or unstable

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"except" option since heparin does not produce congenital anomalies or harmful effects on the fetus in standard dosing.

63. (a) Intravenous

Misoprostol (a prostaglandin E1 analogue) is used to induce cervical ripening, labor, or medical abortion and can be administered orally, sublingually, vaginally, or rectally. Intravenous administration of misoprostol is generally not recommended due to poor control of side effects and safety concerns. Hence, while multiple non-IV routes are well established for pregnancy-related indications, IV use is not standard practice and is considered contraindicated.

64. (d) Hiatus hernia

In general, significant cardiopulmonary disease (severe heart disease or chronic respiratory dysfunction) and extreme obesity can be relative or absolute contraindications for laparoscopic surgery because of risks associated with anesthesia and pneumoperitoneum. However, a stable hiatus hernia is not customarily listed as a routine contraindication for laparoscopic tubal sterilization; it typically can be managed or monitored without prohibiting the procedure. Thus, among the listed options, (d) is the "except."

65. (d) All the above

Mifepristone (RU-486) is a progesterone receptor antagonist that blocks progesterone's action in sustaining the endometrium, thereby causing decidual breakdown and detachment of the embryo. Additionally, it can indirectly impact uterine contractility (especially in combination with prostaglandins) and exerts some influence on the hypothalamic–pituitary–ovarian axis by altering the hormonal feedback. These multiple mechanisms facilitate medical termination of pregnancy. Therefore, "All the above" is correct because Mifepristone's primary role is anti-progesterone, but it also has broader endocrine and uterine effects.

66. (d) Failure to use additional contraception in postoperative period

Vasectomy does not immediately render a male infertile because sperm can remain in the seminal tract for weeks. Couples are advised to use additional contraception for about 3 months or after 15–20 confirmed ejaculations to ensure clearance of residual sperm. A major reason for unexpected pregnancy after vasectomy is noncompliance with that advice, i.e., stopping birth control too soon. While operative failure or recanalization can occur, inadequate contraception until proven azoospermia is by far the most frequent cause.

67. (a) Open ended vasectomy with granulation formation

In an "open-ended" vasectomy, the testicular end of the vas deferens is not completely sealed, allowing sperm to leak out or form granulomas. Although this can alleviate post-vasectomy pain, it also carries a relatively higher chance of recanalization and, thus, failure. Methods involving cutting, ligation, clipping, or folding both ends generally have lower failure rates. Hence, among the listed techniques, open-ended vasectomy is associated with the highest likelihood of unintended recanalization and pregnancy.

68. (c) Client or her spouse must not have undergone sterilisation in the past

Typical guidelines for female sterilization often include a minimum age (commonly 22–49 years range), the requirement that the client be married or in a stable relationship (depending on local policy), and usually having at least one or two living children. However, a past sterilization in either partner does not absolutely disqualify a new sterilization request if there are legitimate indications (e.g., previous failure, reversal). Therefore, (c) is not a standard universal exclusion, making it the correct "except."

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69. (b) Combined oral contraceptive pills

Although the question wording references "gestation," this is typically understood to mean the early postpartum period (first 6 months post-delivery)—a common exam phrasing. Progestin-only methods (e.g., DMPA injections, Norplant implants, or "mini-pill") are generally acceptable in breastfeeding women because they

During normal pregnancy, GFR actually increases due to higher renal blood flow and metabolic demands. Gastric emptying slows, ureters dilate (especially on the right side due to progesterone and mechanical compression), and tidal volume rises as minute ventilation goes up. A decreased GFR, however, is not typical of a healthy pregnancy. Thus, among these options, lowered GFR is the incorrect (i.e., "except") statement for physiologic changes in pregnancy.

42. (d) Granuloma inguinale

Donovan bodies, seen on microscopy within large mononuclear cells, are characteristic of Granuloma inguinale (also called donovanosis), caused by the bacterium Klebsiella granulomatis (formerly Calymmatobacterium granulomatis). Gonorrhea involves Neisseria gonorrhoeae, herpes genitalis is due to Herpes simplex virus, and Chlamydia trachomatis causes different syndromes (like LGV, urethritis). The presence of Donovan bodies is a hallmark diagnostic feature for Granuloma inguinale, which presents with painless, progressive genital ulcers.

43. (c) Mumps

Live attenuated vaccines (such as MMR, which includes mumps) are typically contraindicated during pregnancy because of the theoretical risk to the fetus. Tetanus toxoid is routinely administered to pregnant women to prevent neonatal tetanus, and in certain cases, Hepatitis A and B vaccines may be given if indicated by risk factors. However, the mumps component of MMR is avoided in pregnancy to eliminate the small possibility of viral transmission to the fetus.

44. (c) Haematocolpos

An imperforate hymen or transverse vaginal septum can lead to accumulation of menstrual blood in the vagina (hematocolpos) once menstruation begins, causing cyclic pelvic pain but no visible bleeding. As the retained blood volume increases, it can compress the bladder neck, leading to urinary retention. In contrast, Turner's syndrome (45,X) presents differently, and testicular feminization (complete androgen insensitivity) typically features a blind vaginal pouch. Hence, primary amenorrhea with urinary retention suggests an outflow obstruction such as hematocolpos.

45. (b) secretory phase

After ovulation, progesterone from the corpus luteum changes the proliferative endometrium into a secretory type. This secretory phase is characterized by tortuous glands containing secretions, subnuclear vacuoles, and a "spiral" appearance of the arteries. These histological features confirm that ovulation (and hence luteal progesterone) has occurred. The proliferative phase is estrogen-driven and precedes ovulation, while hyperplasias (cystic glandular or adenomatous) are pathological processes usually linked to excessive estrogen stimulation without adequate progesterone opposition.

46. (a) Sodium chloride

Near ovulation, estrogen levels cause the cervical mucus to become thinner, more transparent, and rich in sodium chloride. When this mucus is dried on a slide, the crystallized salt creates a characteristic fern-like pattern under the microscope. The phenomenon is used as an indicator of the fertile window. Other electrolytes may be present, but sodium chloride is the principal contributor to the classic "ferning test" observed in cervical mucus samples.

47. (c) Compression of inferior vena cava

In the supine position during late pregnancy, the enlarged uterus can compress the inferior vena cava. This reduces venous return to the heart, leading to decreased cardiac output and subsequent hypotension (the "supine hypotension syndrome"). Sitting or standing alleviates this compression because the uterus is no longer pressing directly on the vena cava. Aortic compression is possible but less common; IVC compression is the usual culprit for marked blood pressure drops in the supine position.

48. (a) Umbilical artery carries oxygenated blood to the fetus

Fetal circulation is unique. Oxygen-rich blood comes from the placenta via the umbilical vein, which delivers oxygenated blood to the fetus.

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conditions like uncontrolled seizures that may complicate management. However, being older than 35 years is not, by itself, a contraindication if the patient is otherwise healthy. Women over 35 can safely undergo medical abortion provided they meet the standard clinical and investigative prerequisites.

77. (c) If indirect Coombs' test is negative

Anti-D immunoglobulin prevents isoimmunization only if the mother has not already formed her own anti-Rh antibodies. An indirect Coombs' test screens maternal serum for anti-Rh antibodies. If it is negative, she remains unsensitized and anti-D administration can effectively prevent future sensitization. A positive test indicates pre-existing antibodies, making prophylactic anti-D moot. Standard practice is to give anti-D routinely to Rh-negative mothers delivering Rh-positive babies, after confirming they are Coombs' test negative.

78. (b) Indirect maternal death

Maternal mortality is classified as direct or indirect. Direct maternal death stems from obstetric complications (e.g., hemorrhage, preeclampsia). Indirect maternal death arises from preexisting conditions or diseases aggravated by pregnancy (e.g., cardiac disease). Because the woman died from a heart ailment that worsened postpartum, this is labeled an "indirect maternal death." A purely non-maternal or medical death does not involve obstetric influence, whereas here, pregnancy likely exacerbated her underlying heart condition.

79. (a) To prevent the risk of subsequent septic abortion and preterm labour

If a pregnancy occurs with an IUCD in situ and the threads are visible, guidelines advise removing the device to reduce the chances of infection, septic abortion, and adverse pregnancy outcomes (e.g., preterm labor, miscarriage). Retaining the IUCD significantly raises the risk of these complications. Congenital abnormalities from modern IUCDs are not typically a major concern, nor is postpartum hemorrhage or perforation the primary rationale. Thus, preventing infection-related pregnancy loss and prematurity is the key reason.

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80. (b) Laparoscopic ring application

Among sterilization methods, applying a silastic ring (or clip) generally causes minimal damage to the tubal segments, making later surgical re-canalization (if desired) more successful. Procedures like fimbriectomy remove the fimbrial end (rendering reversal almost impossible), and more extensive resections (e.g., certain segments in Uchida or Irving methods) complicate future reanastomosis. The Pomeroy technique is commonly used but can involve excising a loop of the tube, somewhat reducing reversal success. Hence, ring application offers the highest re-canalization rates.

81. (c) Yield

In screening programs, "yield" is the term for how many previously undetected cases of a disease are discovered. It is essentially the number of new or unrecognized cases that come to light specifically because of the screening effort. Predictive accuracy (positive and negative predictive values) relates to test performance; reliability (repeatability) is whether a test gives consistent results; and validity pertains to sensitivity/specificity. But "yield" directly measures the benefit of screening in uncovering hidden disease.

82. (b) 245 mmol/litre

The World Health Organization's revised ORS solution has a total osmolarity of approximately 245 mOsm/L, lower than the older formula (which was around 311 mOsm/L). This reduction helps minimize the risk of hypernatremia and further decreases stool output and vomiting in diarrheal illness. It contains specific concentrations of sodium, chloride, potassium, citrate, and glucose designed to promote optimal water and electrolyte absorption in acute diarrhea.

83. (b) Eggs are boat shaped

Culex mosquitoes typically lay "raft-like" or "boat-shaped" clusters of eggs on water. By contrast, Aedes aegypti lays eggs singly just above the water line, and the eggs are elongated

the transverse dimension, which predisposes the fetal head to enter the pelvis in a posterior position and occasionally be born with the face directed toward the pubic symphysis. Android or platypelloid shapes have other characteristic issues (e.g., deep arrest, transverse arrest), whereas the gynaecoid pelvis is most favorable for normal, occiput-anterior delivery.

56. (c) The fundal height decreases

Classical signs of placental separation include: (1) a firm, globular uterus, (2) a sudden gush or trickle of blood, (3) permanent lengthening of the umbilical cord, and (4) the uterus rising slightly in the abdomen because the placenta descends into the lower segment. Typically, the fundal height does not "decrease"; rather, the uterus often moves upward when the placenta detaches. Thus, (c) is the incorrect ("except") sign, since a lower fundal height is not characteristic of normal placental separation.

57. (c) Gestational diabtets

Hydatidiform mole (molar pregnancy) causes excessively high human chorionic gonadotropin (hCG) levels, which may lead to hyperemesis gravidarum, thyrotoxicosis (via cross-reactivity with TSH receptors), and occasionally early pregnancy-induced hypertension (preeclampsia before 20 weeks). Although glucose metabolism can vary in any pregnancy, gestational diabetes is not classically linked or notably increased in molar gestations. Therefore, among these choices, gestational diabetes is the least typical complication and is considered the "except" condition.

58. (b) Retroverted gravid uterus

In early pregnancy, a markedly retroverted uterus can become "impacted" in the pelvis as the uterus enlarges around 12–14 weeks. This can compress the bladder neck and urethra, leading to acute urinary retention. Although pelvic tumors or uterine prolapse can also cause retention, the most frequent culprit in this time frame is a retroverted gravid uterus. Once recognized, gentle manual repositioning or other maneuvers can relieve the obstruction and restore normal voiding.

59. (b) B-Lynch suture

The B-Lynch brace suture is a well-known uterine compression suture designed to control bleeding in atonic postpartum hemorrhage when medical management (uterotonics) is insufficient. By externally compressing the uterine walls, it helps tamponade bleeding surfaces and can save the uterus from hysterectomy. Sturmdorf sutures are used in cervical operations, while Fothergill's suture is associated with uterine prolapse repair (Manchester operation). The B-Lynch technique remains a cornerstone surgical procedure for severe, intractable uterine atony.

60. (d) Angiotensin converting enzyme inhibitors

ACE inhibitors (e.g., enalapril, lisinopril) are contraindicated in pregnancy, particularly in the second and third trimesters, because they can cause fetal renal damage, oligohydramnios, and other serious complications. Preferred antihypertensives for pregnancy-related hypertension include labetalol, methyldopa, and nifedipine. By contrast, ACE inhibitors pose significant fetal risks and must be avoided once pregnancy is confirmed or strongly suspected.

61. (b) Ovary

Relaxin, a polypeptide hormone, is produced primarily by the corpus luteum in the ovary (and to some extent by the placenta). Its levels peak during pregnancy and help soften the cervix, relax pelvic ligaments, and facilitate childbirth. The vagina and fallopian tubes do not secrete significant hormones. The pituitary gland does not produce relaxin. Hence, the ovary (specifically the corpus luteum) is the main source of relaxin in pregnancy.

62. (d) Teratogenicity

Unlike warfarin, unfractionated heparin and low-molecular-weight heparins do not cross the placenta and are not known to cause fetal malformations. Major recognized risks of heparin therapy include bleeding (due to anticoagulation), thrombocytopenia (HIT syndrome), and osteoporosis with long-term use. Teratogenicity is not a characteristic complication. Therefore, (d) is the correct

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cases (relapse, treatment failure, or returned after default), Category III is for new, less severe EPTB/pulmonary TB (smear-negative), and Category IV is for multi-drug-resistant TB requiring specialized regimens.

92. (d) Epidemic conjunctivitis

VISION 2020 aims at eliminating preventable blindness by addressing major causes: cataract, refractive errors, childhood blindness, corneal pathologies, and glaucoma, among others. Epidemic (acute) conjunctivitis, while inconvenient and potentially contagious, is not a principal cause of permanent blindness. Hence, it is not a core priority disease under the Vision 2020 initiative in India.

93. (c) Infant parasite rate

Among epidemiological indices—such as spleen index, parasite rate, and others—the "infant parasite rate" is especially sensitive for gauging recent malaria transmission. Infants acquiring infection (≤1 year) strongly indicates ongoing local transmission. It is less confounded by prior exposures or partial immunity in older children and adults. Consequently, identifying parasites in very young children is a sensitive marker of continuing malaria transmission in the area.

94. (d) Hook worm infestation

Chandler's index (or Chandler's technique) specifically applies to hookworm disease, quantifying the intensity of infection. Other indices, like Stoll's egg count method, also measure worm load. Chandler's index is important in epidemiological surveys to gauge prevalence and severity of hookworm infestation, allowing assessment of control strategies (e.g., mass deworming).

95. (d) Tuberculosis

IMNCI (Integrated Management of Neonatal and Childhood Illness) addresses the leading killers of children under five: pneumonia, diarrhea, malaria (in endemic regions), measles, and malnutrition. Its aim is to manage these common, acute conditions at community and primary-health levels. While TB is a significant pediatric issue, it is not part of the core IMNCI case-management guidelines in the same manner as malaria or pneumonia.

96. (d) Measles vaccine

Although extremely rare, toxic shock syndrome (TSS) has been documented following certain injections or vaccinations, notably measles vaccine, often linked to contaminated injection practices or staphylococcal toxins. DPT, OPV, and recombinant Hepatitis B vaccines have different adverse profiles; TSS is not characteristically associated with them. Proper aseptic technique and vaccine handling minimize this rare complication.

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97. (d) Ponderal index

The Ponderal Index (PI) is calculated as:

$$PI = \frac{Height\ (in\ cm)}{\sqrt[3]{Weight\ in\ kg}}$$

It is often used to assess body proportionality in neonates or children. Quetelet's index is the Body Mass Index (BMI = kg/m^2). Broca index and Corpulence index have their own formulas, but dividing height by the cube root of weight specifically defines the Ponderal index.

98. (b) Systematic random sampling

In systematic sampling, one decides on a fixed sampling interval (say k), selects the first unit randomly from the first k in the list, and then picks every k-th unit thereafter. This yields a sample drawn at regular intervals. Simple random sampling selects all units purely by chance with no set interval. Stratified sampling divides the population into strata and samples within each. Snowball sampling recruits further participants via existing subjects' social networks.

99. (c) 24 months

Language milestones typically see toddlers combining two or three words into short sentences around 2 years of age (24 months). By 12–15 months, a child may say a few single words. By 3 years (36 months), the child can handle longer sentences and more complex grammar. Thus, short meaningful phrases or sentences begin reliably around 2 years.

21. A truck driver hit his chest against the steering wheel and sustained multiple rib fractures. His vitals are stable; however, the injured side of the chest shows paradoxical movement. The chest X-ray shows no evidence of haemothorax or pneumothorax but there is a large pulmonary contusion. The most appropriate treatment will be
(a) Tracheostomy, mechanical ventilation and positive end-expiratory pressure ventilation
(b) Stabilisation of fractured ribs with towel clips
(c) Immediate operative stabilisation
(d) Insertion of an intrathoracic drain

22. What is the most appropriate surgical procedure for a duodenal atresia ?
(a) Gastroduodenostomy
(b) Duodenoduodenostomy
(c) Duodenojejunostomy
(d) Ramstedt's operation

23. All of the following signs are considered in Alvarado score for acute appendicitis except
(a) Elevated temperature
(b) Right iliac fossa tenderness
(c) Rebound tenderness
(d) Rectal tenderness

24. A 30-year-old patient developed haematuria following a blunt injury to the abdomen. The patient is haemodynamically stable. However, the ultrasonographic examination reveals a perirenal collection which measures 4 × 4 cm. The patient is best managed by
(a) Immediate laparotomy and repair of the renal injury
(b) Renal angiography and embolisation of the bleeding vessel
(c) Percutaneous nephrostomy and drainage of the haematoma
(d) Nonoperative management

25. An inhalation injury may result in which of the following ?
1. Thermal burn to the upper airway
2. Thermal burn to the bronchial tree and lungs
3. Chemical burn to the bronchial tree
4. Chemical burn to the lungs

Select the correct answer using the code given below:
(a) 1 and 2
(b) 2 and 3 only
(c) 1, 3 and 4
(d) 2, 3 and 4

26. Avascular necrosis may develop in the following fractures except
(a) Fracture of the scaphoid
(b) Subcapital fracture of the femoral neck
(c) Fracture of the calcaneum
(d) Fracture of the talus

27. The carpal tunnel syndrome occurs due to the compression of
(a) Median nerve
(b) Ulnar nerve
(c) Radial nerve
(d) Radial artery

28. Inhaled foreign bodies are more likely to enter the right main bronchus than left because
(a) the right main bronchus is longer, wider and horizontal
(b) the right main bronchus is shorter, wider and nearly vertical
(c) the right main bronchus is shorter, narrower and horizontal
(d) the right main bronchus is shorter, posterior and horizontal

29. A patient is diagnosed to have a Stage T3a carcinoma of the prostate. Clinically, this implies
(a) Involvement of both the lobes but the disease is limited to within the prostatic capsule
(b) Involvement of both the lobes but the disease has extended through the prostatic capsule
(c) Involvement of the seminal vesicles
(d) Involvement of the pelvic wall

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malaria is spread by Anopheles species and dengue by Aedes aegypti. Thus, Mansonioides uniquely aligns with Brugian filariasis among these options.

109. (d) Education, occupation and income

Kuppuswamy's classification categorizes Indian families into socio-economic strata based on three parameters:

1. Education of the head of household,
2. Occupation of the head of household,
3. Monthly family income.

By assigning score points to each parameter, a composite score determines the socio-economic class (Upper, Upper middle, etc.). Family size and housing are not part of the official scale in Kuppuswamy's model.

110. (b) Pearl index

The Pearl Index calculates contraceptive failure by expressing the number of unintended pregnancies per 100 woman-years of exposure. It is the most classic statistic for evaluating how often a given method "fails" in typical use over a set period. Total fertility rate and age-specific fertility rates are population-level measures, while "half life index" is not a standard fertility or contraceptive measure.

111. (c) Artesunate

For malaria prophylaxis, options include chloroquine (in chloroquine-sensitive regions), proguanil (often combined with atovaquone), and mefloquine in areas with chloroquine resistance. Artesunate, while highly effective for treatment (especially in artemisinin-based combination therapies), is not generally used for prophylaxis. Prophylactic regimens rely on longer-acting agents that maintain blood levels over time, whereas artesunate has a short half-life suited to acute therapeutic use rather than prevention.

112. (d) Couple protection rate

A net reproduction rate (NRR) of 1 implies each generation of mothers is exactly replaced by the next—i.e., population replacement–level fertility. In demographic and family planning practice, achieving NRR=1 requires at least 60% of couples to be effectively protected against conception (through contraception). This threshold ensures that average family size is sufficiently low to stabilize population growth. A high couple protection rate reduces overall fertility, thereby bringing the NRR down to the replacement level of one.

113. (b) ≥ 25

According to widely accepted international standards (e.g., WHO criteria), a BMI $\geq$25 kg/m^2 classifies an adult as overweight. Below this, 18.5–24.9 is considered normal range. A BMI $\geq$30 defines obesity. These cutoffs help clinicians identify individuals at higher risk for conditions like hypertension, type 2 diabetes, and cardiovascular disease. Some regions (e.g., certain Asian populations) use slightly lower BMI thresholds for risk, but 25 remains the general global benchmark for overweight.

114. (d) Chlorine demand

Horrock's apparatus is a field-testing kit designed to determine the amount of chlorine (e.g., from bleaching powder) needed to disinfect a given volume of water—thereby measuring the "chlorine demand." The water's chlorine demand is the quantity of chlorine consumed by organic and inorganic impurities before a residual disinfectant level remains. Knowledge of this demand is crucial for ensuring effective water treatment while avoiding under- or overdosing of chlorine.

115. (d) Haemorrhage, sepsis, abortion, obstructed labour

In India, postpartum hemorrhage consistently ranks as the leading direct obstetric cause of maternal death, followed closely by sepsis (infection). Unsafe abortion is also a significant contributor, and obstructed labor, though a grave complication, generally accounts for fewer deaths than hemorrhage, sepsis, or abortion. Hence, the typical descending order of maternal mortality causes is: hemorrhage sepsis abortion obstructed labor.

116. (d) Women of reproductive age group → children 1-14 years → Infants

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To rapidly reduce congenital rubella syndrome, the highest immediate impact is achieved by immunizing women of reproductive age (especially adolescent girls) to prevent fetal infection. Then, vaccinating children from 1–14 years curtails ongoing virus circulation, thereby lowering rubella transmission overall. Finally, infants are included in the routine immunization schedule to sustain rubella control in future cohorts. This strategic prioritization helps protect pregnancies and break the chain of transmission long-term.

117. (c) affective learning

In educational psychology, Bloom's taxonomy categorizes learning into three primary domains: cognitive (knowledge, intellectual skills), psychomotor (physical skills, coordination), and affective (attitudes, values, emotions). "Attitude" is part of the affective domain, reflecting a learner's internal feelings, predispositions, or beliefs about a subject. Affective learning addresses motivation, self-awareness, and emotional growth, all of which shape how individuals receive and respond to information or situations.

118. (c) Repellent

Diethyltoluamide (DEET) is one of the most widely used topical insect repellents. Applied to skin or clothing, it helps deter mosquitoes, ticks, and other biting insects. It does not kill larvae or pupae (not a larvicide or pupicide), nor is it used as a fogging or space spray. Instead, it interferes with the olfactory senses of insects, preventing them from landing or biting. DEET-based repellents are a key tool in personal protection against vector-borne diseases.

119. (a) 28 weeks gestation to one week after birth

According to WHO definitions, the perinatal period begins at 28 completed weeks (196 days) of gestation and continues until 7 days after birth. This window captures late fetal and very early neonatal life—both critical for measuring late fetal deaths (stillbirths) and early neonatal outcomes. Some definitions vary slightly by country, but internationally the 28-weeks-to-7-days standard is common for comparing perinatal mortality and outcomes across populations.

120. (c) Previous history of thrombo-embolism

Estrogen-containing combined oral contraceptives significantly raise the risk of venous thromboembolism (VTE). Hence, a woman with a personal history of thrombo-embolism is generally contraindicated from using these pills, as the recurrence risk becomes too high. While caution or relative contraindications may apply to poorly controlled diabetes, migraines with aura, or severe gallbladder disease, the presence of a prior thrombotic event is typically considered an absolute bar to combined estrogen-progestin contraceptives.

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100. (c) 65.0%

Secondary attack rate focuses on the susceptible population. Out of 100 children, 60% are vaccinated (60 are presumably immune), leaving 40 susceptible. Of these 40, 26 develop the disease. Thus, the secondary attack rate = $(26 \div 40) \times 100 = 65\%$. This calculation excludes those already protected by vaccination.

101. (c) Super-chlorination followed by de-chlorination

When water is heavily contaminated, simply adding standard chlorine doses may be insufficient. Super-chlorination involves using a higher chlorine dose to effectively kill resistant pathogens. Because residual chlorine may remain too high for safe consumption, the water is subsequently dechlorinated. This two-step technique is widely used in large-scale municipal treatments for highly polluted sources.

102. (d) MDR-TB

Cholera is notorious for profuse watery diarrhea leading to dehydration. Cerebral malaria and pertussis (in young children) can each produce vomiting, reduced fluid intake, or prolonged fever, sometimes resulting in dehydration. Multidrug-resistant TB, however, is a chronic pulmonary (or extrapulmonary) infection not typically characterized by acute fluid loss that leads to dehydration. Although weight loss or general weakness may occur in TB, frank dehydration is not a classical or defining feature.

103. (b) Child-woman ratio

Where vital registration is incomplete, demographers often use the child-woman ratio (the number of children under 5 per 1,000 women of reproductive age) to approximate fertility levels. Net reproduction rate, abortion rate, and other measures require reliable data on births and outcomes. The child-woman ratio can serve as a proxy in regions lacking robust birth registration.

104. (b) Unipolar depressive disorders

Globally, unipolar major depression contributes the largest share of DALYs among mental disorders, reflecting its high prevalence and significant impact on daily functioning. Bipolar disorder, OCD, and panic disorder also cause substantial morbidity, but unipolar depression alone accounts for a greater burden overall. It frequently leads to productivity loss, disability, and can co-occur with physical illnesses.

105. (a) Individual approach

Mailers (physical letters or emails) sent to specific recipients are considered a one-to-one or individual communication method, even if done in bulk. Each targeted household or person receives a personalized message, unlike mass media (radio, TV, newspaper) that broadcasts to the general public. It generally is not inherently two-way unless there is a mechanism for direct reply.

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106. (b) Retinoblastoma

Retinoblastoma most commonly follows an autosomal dominant inheritance pattern (with variable penetrance). Sickle cell anemia and albinism are classic autosomal recessive disorders. Hirschsprung disease can have complex genetic mechanisms, but many familial cases are linked to autosomal recessive or multifactorial inheritance. By contrast, hereditary retinoblastoma is distinctly associated with a tumor suppressor gene (RB1) transmitted in an autosomal dominant fashion.

107. (c) Vitamin D resistant rickets

Hemophilia A, color blindness, and Duchenne muscular dystrophy are all X-linked recessive disorders. Vitamin D-resistant rickets (also called X-linked hypophosphatemic rickets) is transmitted as an X-linked dominant condition. A female with the mutant gene can manifest the disorder and pass it to offspring, unlike X-linked recessive traits that typically manifest more severely in males.

108. (b) Brugian filariasis

Mansonia (and Mansonioides) species mosquitoes are key vectors of Brugia malayi—the causative agent of Brugian filariasis. Wuchereria bancrofti is typically transmitted by Culex (and in some areas Anopheles), while

(c) Causalgia
(d) Raynaud's disease

11. In which one of the following is Branham's sign positive ?
(a) Arterial stenosis
(b) Arterial aneurysm
(c) Deep vein thrombosis
(d) Arteriovenous fistula

12. The structures removed in radical neck dissection include
1. Sternomastoid muscle
2. Submandibular gland
3. Internal jugular vein
4. Recurrent laryngeal nerve

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 1 and 3 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

13. Which of the following breast cancers is most often bilateral ?
(a) Medullary carcinoma of the breast
(b) Lobular carcinoma of the breast
(c) Colloid carcinoma of the breast
(d) Ductal carcinoma of the breast

14. The inflammatory breast carcinoma is staged as
(a) T4a
(b) T4b
(c) T4c
(d) T4d

15. All of the following organisms are involved in post-splenectomy sepsis except
(a) Streptococcus pneumoniae
(b) Neisseria meningitides
(c) Haemophilus influenzae
(d) Staphylococcus aureus

16. Splenectomy is indicated in all of the following conditions, except
(a) Hereditary spherocytosis
(b) Idiopathic thrombocytopenic purpura
(c) Myelofibrosis
(d) Hydatid cyst of the spleen

17. Which one of the following statements is true regarding injection sclerotherapy for haemorrhoids ?
(a) Sclerotherapy is the ideal treatment for acute external haemorrhoids
(b) In patients with haemorrhoids at 3 o'clock, 7 o'clock and 11 o'clock positions, the injection is made in the sitting position
(c) Sclerotherapy is the treatment of choice for the prolapsed haemorrhoids
(d) Injection of sclerosant is made above the dentate line (pectinate line)

18. Which one of the following nerves is vulnerable to injury while conducting an appendicectomy through the McBurney's incision ?
(a) Subcostal nerve
(b) Genitofemoral nerve
(c) Ilio-inguinal nerve
(d) Lateral cutaneous nerve of the thigh

19. The pancreas is supplied by all of the following arteries except
(a) Left gastric
(b) Common hepatic
(c) Splenic
(d) Superior mesenteric

20. The Ranson prognostic criteria used at the time of admission in acute pancreatitis include all of the following except
(a) Age more than 55 years
(b) Blood glucose more than 200 mg/100 mL
(c) WBC count more than 16,000/mm^3
(d) Serum calcium < 2·0 mmol/L

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correct ?
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1 and 3 only

42. Which one of the following statements is not correct regarding the haemodynamic changes occurring during a pregnancy ?
(a) The cardiac output is increased
(b) The stroke volume is increased
(c) The systemic vascular resistance is increased
(d) The serum colloid pressure is decreased

43. The perinatal HIV transmission can be reduced by the following measures except
(a) Intrapartum anti-retroviral therapy
(b) Delivery by elective caesarean section
(c) Anti-retroviral therapy to the neonate
(d) Breast-feeding

44. A multiparous patient has been diagnosed to have foetal demise on a sonographic examination at 16 weeks of pregnancy. The ideal method for termination is
(a) Suction curettage
(b) Hysterotomy with tubectomy
(c) Extra-amniotic ethacridine
(d) High vaginal insertion of dinoprostone gel

45. A 30-year-old third gravida, who has a 3-year-old child and had undergone a MTP one year ago, has presented with 30-weeks pregnancy. She complains of having had vaginal bleeding 2 hours ago. She has not received any antenatal care. On examination, her pulse is 78 beats per minute, and the BP is 102/58 mmHg. She has moderate pallor, her abdomen is soft, and the foetal heart rate is 130 beats per minute. The most appropriate management will be
1. Ultrasonographic evaluation
2. Watch for labour
3. Hospitalisation and bed rest
4. Speculum examination of vagina and cervix
5. I.V. fluid drip

Select the appropriate treatment using the code given below :
(a) 1 and 2
(b) 1, 3 and 5
(c) 3, 4 and 5
(d) 2, 3 and 4

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46. A 35-year-old woman presents with complaints of profuse vaginal bleeding. She also has a history of abortion 4 months ago. On examination, the uterus is soft and bulky, both ovaries are enlarged and cystic, and the pregnancy test is positive. The probable diagnosis is
(a) Incomplete abortion
(b) Malignant ovarian tumour
(c) Persistent trophoblastic disease
(d) Dysfunctional uterine bleeding

47. An elderly gravida with 36-weeks pregnancy presents with severe pregnancy induced hypertension (PIH), severe abdominal pain, per vaginal bleeding and loss of foetal movements. The diagnosis is
(a) Placenta praevia
(b) Abruptio placenta
(c) Rupture of uterus
(d) Vasa praevia

48. A young female patient presents with a history of two months amenorrhoea and complaints of severe lower abdominal pain, syncopal attacks and minimal per vaginal bleeding. On examination, she has tachycardia and appears pale. The clinical diagnosis is
(a) Ectopic pregnancy
(b) Molar pregnancy
(c) Inevitable abortion
(d) Missed abortion

49. A 30-year-old woman with history of previous three abortions has been found to have anti-phospholipid antibodies. What will be the treatment of choice in the subsequent pregnancy?
(a) Corticosteroids
(b) Aspirin
(c) Heparin
(d) Aspirin and Heparin

30. Which one of the following statements regarding seminoma testis is correct?
(a) It is the most common type of testicular cancer
(b) It frequently metastasizes to the liver and bones
(c) It does not respond to radiation
(d) Its five-year survival rates approach 50 per cent

31. The most typical clinical presentation of a retinoblastoma is
(a) Severe pain in the eye
(b) Loss of vision
(c) White reflex in pupil
(d) Proptosis

32. The normal range of intraocular pressure (in mmHg) is
(a) 5-15
(b) 10-20
(c) 15-25
(d) 20-30

33. The treatment of choice for a mastoid fracture with facial nerve paralysis is
(a) Nerve decompression
(b) Steroid therapy
(c) Sling operation
(d) Mastoidectomy with nerve grafting

34. Which one of the following conditions produces sensorineural deafness ?
(a) Eustachian tube blockage
(b) Tympanic membrane rupture
(c) Mixed otosclerosis
(d) Atelectatic middle ear

35. Which is the most common laryngeal abnormality that produces laryngeal stridor in a newborn ?
(a) Congenital subglottic stenosis
(b) Congenital web
(c) Congenital vocal cord paralysis
(d) Laryngomalacia

36. A fracture of the middle cranial fossa may result in an injury of the
(a) Sixth cranial nerve
(b) Eighth cranial nerve
(c) Tenth cranial nerve
(d) Eleventh cranial nerve

37. A meningomyelocele is most commonly situated in the
(a) Cervical spine
(b) Thoracic spine
(c) Dorsolumbar spine
(d) Lumbosacral spine

38. A pulmonary artery (Swan-Ganz) catheter measures all of the following except
(a) Cardiac output (CO)
(b) Pulmonary artery wedge pressure (PAWP)
(c) Mixed venous oxygen saturation (Svo_2)
(d) Left ventricular end diastolic volume (LVEDV)

39. Which of the following local anaesthetics causes irreversible cardiac arrest if it is given intravenously?
(a) Bupivacaine
(b) Lignocaine
(c) Cocaine
(d) Prilocaine

40. Blood stored in the blood bank is deficient in which of the following coagulation factors ?
(a) Factor II only
(b) Factors II and VII
(c) Factors V and VIII
(d) Factors IX and X

41. Consider the following statements regarding HCG :
1. HCG is a glycoprotein with two subunits α and β.
2. HCG levels reach the maximum between the 60th and 70th day in a normal pregnancy.
3. HCG is secreted by the cytotrophoblasts of the chorionic villi.

Which of the statements given above is/are

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1. The term debridement of the wound refers to
   (a) Clean excision of at least 1 mm of skin from the edge of the wound
   (b) The irrigation and cleaning of the wound
   (c) Laying open all layers of the wound and excision of the devitalized tissue
   (d) Closure of wound in layers

2. Which of the following statements is true regarding wound contracture ?
   (a) It is a primary process affecting the closure of sutured wounds
   (b) Bacterial colonization of a wound slows the process of contraction
   (c) It is the function of specialised fibroblasts that contain actin myofilaments
   (d) It may account for a maximum of 40% decrease in the size of a wound

3. Consider the following statements :
   HIV can be transmitted to a healthcare worker from a patient through :
   1. A needle stick injury
   2. Contact with the patient's blood
   3. External examination of the patient
   4. Inhalation
   Which of the statements given above is/are correct ?
   (a) 1 and 4
   (b) 1 and 2 only
   (c) 1, 2 and 3
   (d) 2 and 3 only

4. The scolicidal agents used in the surgery of a hydatid cyst include all of the following except
   (a) 0·5% silver nitrate
   (b) 20% (hypertonic) saline
   (c) 15% gluteraldehyde
   (d) Absolute alcohol

5. Which one of the following is an example of a chemodectoma ?
   (a) Cock's peculiar tumour
   (b) Cystosarcoma phyllodes
   (c) Carotid body tumour
   (d) Keratoacanthoma

6. Which of the following statements is true about antibiotic therapy ?
   (a) It has its greatest effect on multiplying organisms
   (b) It enhances the uptake of organisms by phagocytes
   (c) It enhances the intracellular killing of organisms by phagocytes
   (d) It facilitates killing of organisms by activation of complements

7. The commonest cause of primary hyperparathyroidism is
   (a) Idiopathic parathyroid hyperplasia
   (b) Familial hyperparathyroidism
   (c) Parathyroid adenoma
   (d) Primary parathyroid carcinoma

8. The central venous pressure (CVP) is low in
   (a) Pericardial effusion
   (b) Massive pulmonary embolism
   (c) Acute left ventricular failure
   (d) Tension pneumothorax

9. In a 30-year-old male smoker, the commonest cause of dry gangrene of foot will be
   (a) Buerger's disease
   (b) Atherosclerosis
   (c) Diabetes mellitus
   (d) Embolism

10. The following are the indications for carrying out a sympathectomy except
    (a) Hyperhydrosis
    (b) Venous ulcer of leg

50. In the rhesus-negative mothers, the factors which influence the development of rhesus incompatibility include all except
(a) Amniocentesis
(b) Placental abruption
(c) Incoordinate uterine action
(d) Abortions

51. The anticonvulsant of choice in the treatment of seizures in eclampsia is
(a) Magnesium sulphate
(b) Diazepam
(c) Phenytoin
(d) Phenobarbitone

52. A vaginal examination conducted during the second stage of labour reveals occipito-posterior position of the vertex. This occipito-posterior position of the vertex was diagnosed on the basis of which of the following findings?
(a) Anterior fontanelle not reached
(b) Posterior fontanelle in the subpubic area
(c) Sagittal suture in transverse in the pelvic cavity
(d) Posterior fontanelle is anterior to the maternal sacrum with the sagittal suture anteroposterior

53. A 35-year-old multiparous woman is admitted with prolonged labour. She is in shock, and her pulse rate is 150 per minute. The uterus is tonically contracted with Bandl's ring, and the presenting part is not engaged. The appropriate treatment is
(a) Augment labour with oxytocin
(b) Deliver the baby by vaginal route using a vacuum extractor
(c) Perform LSCS (Lower Segment Caesarean Section)
(d) Do internal podalic version and extraction

54. A second gravida, whose first baby is alive, has been in the second stage of labour for more than one hour. On examination, her cervix is fully dilated. The pelvis is adequate and the station of the vertex is +2. The occiput is in right occipitoposterior position and the foetal heart is 120/min. The mother is exhausted. She should be delivered by
(a) Forceps application
(b) Vacuum extraction
(c) Wait and watch policy
(d) Caesarean section

55. Before the delivery of the second twin having cephalic presentation, the mother develops profuse bleeding per vaginum. The appropriate management will be
(a) Deliver the placenta of the first twin
(b) ARM
(c) External cephalic version and oxytocin drip
(d) Internal podalic version and breech extraction

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56. A 34-week multiparous gravida comes in labour. On examination, the cervix is fully dilated, the head is at +2 station and the foetal heart rate is 172/min. The appropriate management will be
(a) Immediate LSCS (Lower Segment Caesarean Section)
(b) Apply ventouse and deliver
(c) Wait and watch
(d) Apply forceps and deliver

57. A 25-year-old primigravida at term is in early labour with vertex presentation in left occipitoposterior position. The head is floating. Her diagonal conjugate measures 11 cm. The appropriate management will be
(a) Deliver vaginally at home
(b) Give her a trial of labour
(c) Deliver by emergency caesarean section
(d) Administer oxytocin drip to induce more powerful contractions

58. The following are the predisposing factors for postpartum uterine atony, except
(a) Pre-eclampsia

113. The detection of sore throat cases in children and their treatment with Benzathine Penicillin in Community Control Programme of Rheumatic Fever/Rheumatic Heart Disease (RF/RHD) constitutes
(a) Primordial prevention of RF/RHD
(b) Primary prevention of RF/RHD
(c) Secondary prevention of RF/RHD
(d) Tertiary prevention of RF/RHD

114. Which one of the following is a stomach poison for the larvae of insects of medical importance?
(a) D.D.T.
(b) Paris Green
(c) Pyrethrum
(d) Anti larva oil

115. In a village, every fifth house was selected for a study. This is an example of
(a) Simple random sampling
(b) Systematic random sampling
(c) Stratified random sampling
(d) Convenience sampling

116. In disability rates, event type indicators are the following except
(a) Number of days of restricted activity
(b) Limitation of activity
(c) Bed disability days
(d) Work loss days

117. A 9-month-old infant is brought to you for immunization. The infant has previously received the first dose of OPV and DPT. What will you do?
(a) Repeat the first dose counting afresh
(b) Give the infant DT/OPV
(c) Give the infant second dose of DPT/OPV
(d) Give the infant a booster dose of DPT/Polio

118. Which of the following regimens is recommended for multibacillary leprosy in children 10–14 years of age?
(a) Rifampicin 450 mg once a month (under supervision) + Dapsone 50 mg daily (self administered) + Clofazimine 150 mg once a month (under supervision) and 50 mg every alternate day
(b) Rifampicin 600 mg once a month (under supervision) + Dapsone 100 mg daily (self administered) + Clofazimine 50 mg once a month (under supervision) and 25 mg every alternate day
(c) Rifampicin 450 mg once a month (under supervision) + Dapsone 50 mg daily (self administered)
(d) Rifampicin 600 mg once a month (under supervision) + Dapsone 50 mg daily (self administered)

119. A randomized trial comparing the efficacy of two drugs showed a difference between the two ($p < 0.05$). However, in reality the two drugs do not differ. This is an example of
(a) Type I error
(b) Type II error
(c) Both type I and II error
(d) Random error

120. Which one of the following formulae is used for computing the Aedes aegypti Index at International Airports and sea ports?
(a) $\frac{\text{Number of bites of Aedes aegypti}}{\text{Total number of man hours}} \times 100$
(b) $\frac{\text{Number of houses positive for Aedes aegypti breeding}}{\text{Total number of houses}} \times 100$
(c) $\frac{\text{Number of containers positive for Aedes aegypti breeding}}{\text{Total number of containers}} \times 100$
(d) $\frac{\text{Number of containers positive for Aedes aegypti breeding}}{\text{Total number of houses}} \times 100$

END

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67. A 20-year-old married woman anxious to get pregnant has cyclical cramps and sharp lower abdominal pain which lasts for 3 days starting from the day of her menstrual flow. Her menstrual periods are regular but heavy. On clinical examination, her pelvis is normal. The most probable diagnosis is
(a) Uterine leiomyomata
(b) Endometriosis
(c) Primary dysmenorrhoea
(d) Adenomyosis

68. Which one of the following statements regarding functional epimenorrhoea is not correct?
(a) It is a cyclic bleeding
(b) The cycle is reduced to an arbitrary limit of 21 days or less
(c) It is seen more frequently at the ends of reproductive life
(d) If epimenorrhoea is associated with heavy menstrual loss it is called menometrorrhagia

69. In a patient of dysfunctional uterine bleeding with cyclical menorrhagia, the first line drug is
(a) Tranexamic acid
(b) Progesterone
(c) Oestrogen
(d) Oestrogen and progesterone

70. The pelvic examination of a woman reveals that the cervix is directed forwards, the body is backward, but it can be anteposed easily. The examination does not demonstrate any other abnormality. The most probable diagnosis is
(a) Posterior wall tumour of the uterus
(b) An ovarian cyst in the pouch of Douglas
(c) Pelvic endometriosis
(d) Retroverted uterus

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71. A 20-year-old young woman, who was delivered two months ago at home by a nurse, presents with a complaint of something protruding through the vulva. The clinical examination reveals a cystocoele, rectocoele, and the cervix 1 cm above the introitus. The most appropriate management will be
(a) Anterior colporrhaphy, posterior colpoperineorrhaphy and perineal repair
(b) Fothergill's operation
(c) Pessary
(d) Sling operation

72. Consider the following :
Which of the following are the features of backache due to genital prolapse ?
1. The pain is experienced on getting up in the morning.
2. The patient complains of a diffuse pain over the sacrum.
3. There is no local tenderness.
4. The pain occurs more commonly among multiparous than nulliparous women.
Select the correct answer using the code given below:
(a) 1 and 4
(b) 1 and 2 only
(c) 1, 2 and 3
(d) 2, 3 and 4

73. A woman who is being investigated for infertility is diagnosed to have a nulliparous prolapse of the uterus. The most appropriate management will be
(a) Ring pessary
(b) Fothergill repair
(c) Sling operation
(d) Cervical amputation

74. Which of the following is not an outcome of gonococcal salpingitis ?
(a) Multiple tubal blocks
(b) Hydrosalpinx
(c) Salpingitis isthmica nodosa
(d) Ectopic pregnancy

75. A parous woman complains of itching in the vulva. On examination, there is local redness and swelling and white flakes around the introitus. The most probable diagnosis is
(a) Gonorrhoea
(b) Trichomoniasis
(c) Candidiasis
(d) Pyogenic vulvovaginitis

76. A recently married woman presents with dysuria and increased urinary frequency of two-days duration. On physical examination, her body temperature is 38°C and her vital signs are normal. Her gynaecologic examination does not reveal any vaginal discharge, vaginitis or cervicitis. Her urine analysis reveals 14 WBC per high power field and many gram negative rods. Which of the following is the most appropriate pharmacotherapy ?
(a) Ampicillin
(b) Ceftriaxone
(c) Fluconazole
(d) Metronidazole

77. The characteristic features of inguinal lymph nodes associated with a primary syphilitic lesion of the vulva are
(a) Painful, tender nodes which become matted together to form an abscess
(b) Firm, shotty, painless nodes that do not suppurate
(c) Non-suppurative tender enlarged nodes
(d) Painful inflamed nodes which undergo necrosis and develop a chronic sinus

78. The common manifestations of genital tuberculosis include the following except
(a) Infertility
(b) Foul-smelling vaginal discharge
(c) Pelvic pain
(d) Amenorrhoea

79. A 60-year-old woman is diagnosed with genital malignancy. On physical examination she is found to have the enlargement of superficial inguinal lymph nodes. The most likely organ involved is
(a) Uterus
(b) Cervix
(c) Vulva
(d) Adnexa

80. The drugs which may interfere with the efficacy of oral contraceptives and increase the failure rates are the following except
(a) Barbiturates
(b) Rifampicin
(c) Ampicillin
(d) Sulphonamides

81. Consider the following statements :
1. Diets high in vitamin C have been claimed to lower the incidence of certain cancers, particularly oesophageal and gastric cancers.
2. Vitamin C can prevent the conversion of nitrites and secondary amines to carcinogenic nitrosamines.

Which of the statements given above is/are correct ?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

82. Iron is absorbed predominantly in the
(a) Stomach
(b) Jejunum
(c) Ileum
(d) Colon

83. The biological value of a given protein depends upon
(a) Digestibility and leucine content
(b) Digestibility and amino acid composition
(c) Amino acid composition alone
(d) Amino acid composition and specific dynamic effect

84. The most common opportunistic infection observed in patients with AIDS is
(a) Atypical mycobacteria
(b) Haemophilus influenzae
(c) Pseudomonas aeruginosa
(d) Pneumocystis carinii

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85. What is the recommendation for use of Levonorgestrel for the purpose of emergency contraception ?
(a) One tablet of 0·75 mg Levonorgestrel to be taken soon after the act of unprotected coitus but within 120 hours
(b) One tablet of 0·75 mg Levonorgestrel to be taken soon after the act of unprotected coitus but within 72 hours
(c) Two tablets of 0·75 mg Levonorgestrel to be taken soon after the act of unprotected coitus but within 96 hours
(d) None of the above

86. Which one of the following vitamins given as a supplement during the peri-conceptional period to a woman can help prevent the neutral tube defects in the baby ?
(a) Thiamine
(b) Riboflavin
(c) Vitamin B_{12}
(d) Folic acid

87. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Vitamins)		**List II (Clinical signs)**
A	Thiamine	1	Dermatitis
B	Niacin	2	Bitot's spots
C	Retinol	3	Cardiac failure
D	Cholecalciferol	4	Tri-radiate pelvis

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-1 C-2 D-4

88. Which of the following conditions may produce wrist drop?
(a) Lead poisoning
(b) Diabetes mellitus
(c) Alcoholics
(d) Beriberi

89. The most common hospital-acquired (nosocomial) infection is
(a) Urinary tract infection
(b) Pneumonia
(c) Surgical wound infection
(d) Bacteraemia

90. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Measuring instrument)		**List II (Function / measures)**
A	Kata thermometer	1	Mean radiant temperature
B	Globe thermometer	2	High air velocity
C	Anemometer	3	Relative humidity
D	Sling Psychrometer	4	Low air velocity

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-4 C-2 D-1

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91. The pathogenic organism responsible for the causation of Donovaniasis is
(a) Chlamydia trachomatis
(b) Calymmatobacterium granulomatis
(c) Haemophilus ducreyi
(d) Herpes simplex virus

92. A Health Assistant (Male) covers a population of
(a) 1,000
(b) 5,000
(c) 30,000
(d) 1,00,000

93. Case Fatality Rate of a disease is a measure of its
(a) Infectivity
(b) Endemicity
(c) Virulence
(d) Chronicity

94. The incubation period of mumps is
(a) 1-2 weeks
(b) 2-3 weeks
(c) 3-4 weeks
(d) 4-5 weeks

95. Cluster testing is used in the detection of
(a) STD
(b) Diabetes
(c) Measles
(d) Cancer

96. Among the following, the best indicator for acute malnutrition in the under-fives is
(a) Mid arm circumference
(b) Head/chest circumference ratio
(c) Weight for height
(d) Height for age

97. In infants and toddlers, craniotabes is a sign related to the deficiency of
(a) Vitamin A
(b) Vitamin C
(c) Vitamin D
(d) Vitamin K

98. An average-sized hen egg would provide
(a) 50 Kcal
(b) 70 Kcal
(c) 90 Kcal
(d) 110 Kcal

99. Specialists that should be available at a Community Health Centre include, inter alia, those in
1. Paediatrics
2. Obstetrics and Gynaecology
3. Dermatology and Venereology
4. Surgery

Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1, 2 and 4
(c) 2, 3 and 4
(d) 1, 3 and 4

100. In a normal curve, how much per cent of the values will be included in the area between two standard deviations on either side of the mean $(X \pm 2\sigma)$?
(a) 68·3
(b) 90·4
(c) 95·4
(d) 99·7

101. The minimum accepted interval between the two doses of D.P.T. is
(a) 4 weeks
(b) 6 weeks
(c) 8 weeks
(d) 10 weeks

102. The ability of a test to identify correctly those who do not have the disease is called its
(a) Sensitivity
(b) Specificity
(c) Positive predictive value
(d) Negative predictive value

103. Which of the following is a live attenuated vaccine?
(a) Hepatitis B Vaccine
(b) Japanese Encephalitis Vaccine
(c) Yellow Fever Vaccine
(d) Salk Vaccine

104. The Relative Risk of a disease measures the
(a) Strength of association between suspected cause and effect
(b) Biological plausibility between suspected cause and effect
(c) Temporal relationship between suspected cause and effect
(d) Specificity of association between suspected cause and effect

105. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Committee)		**List II (Recommend-ations)**

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A	Bhore	1	Develop a referral services complex
B	Mudaliar	2	Strengthening of district hospitals
C	Kartar Singh	3	Replace ANM with female health workers
D	Srivastava	4	Three months' training in PSM for doctors

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-2 C-3 D-4
(c) A-4 B-1 C-2 D-3
(d) A-3 B-1 C-2 D-4

106. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Type of Vector)		**List II (Disease transmitted)**
A	Lice	1	Kyasanur Forest Disease
B	Fleas	2	Endemic Typhus fever
C	Ticks	3	Epidemic Typhus fever
D	Sand Flea	4	Kala-azar

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-2 C-1 D-4

107. Relapsing fever is transmitted by
(a) Hard tick
(b) Sand fly
(c) Soft tick
(d) Tsetse fly

108. In Japanese Encephalitis, which of the basic cycles of transmission mentioned below is not true?
(a) Pig – mosquito – pig
(b) Cattle – mosquito – cattle
(c) Man – mosquito – man
(d) Bird – mosquito – bird

109. Which one of the following is a polyunsaturated fatty acid?
(a) Palmitic acid
(b) Stearic acid
(c) Oleic acid
(d) Linoleic acid

110. Which of the following dietary source contains the lowest per cent of Linoleic acid?
(a) Coconut oil
(b) Mustard oil
(c) Groundnut oil
(d) Corn oil

111. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Epidemiological terms used with disease agents)		**List II (Meaning of the term)**
A	Infectivity	1	Ability to induce clinical signs/ symptoms
B	Pathogenicity	2	Ability to cause severe clinical manifestations
C	Virulence	3	Ability to invade and multiply in a host
D	Communicability	4	Capacity/extent of transmission from host to host

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-1 C-2 D-4

112. Which of the following is a non-modifiable risk factor for coronary heart disease?
(a) Cigarette smoking
(b) Elevated serum cholesterol
(c) Alcoholism
(d) Age

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(b) Oxytocin induced labour
(c) Hydramnios
(d) Multiple pregnancy

59. A multiparous woman presenting with postpartum haemorrhage due to placenta increta is best managed by
(a) Hysterotomy with the removal of the adherent placenta
(b) Internal iliac artery ligation
(c) Hysterectomy
(d) Packing the uterus followed by a course of methotrexate

60. On examination, a woman with post-dated pregnancy is found to have 80% effaced cervix. She requires the induction of labour. This is best done through
(a) Oxytocin drip
(b) Intracervical dinoprostone gel
(c) ARM with oxytocin drip
(d) Carboprost tromethamin intramuscularly

61. Which of the following foetal diameters measure 9·4 cm at term?
1. Biparietal diameter
2. Suboccipitofrontal diameter
3. Submentobregmatic diameter
4. Bitrochanteric diameter

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

62. A multiparous woman delivered by a village dai (midwife) presents on the 22nd postnatal day with bleeding per vaginum with clots. On examination, the uterus is 14-16 weeks, the internal os is open, and there is bleeding through the os. The likely cause of this bleeding is
(a) Excessive postnatal physical work
(b) Perineal tears
(c) Retained bits of placenta and membranes
(d) None of the above

63. The incidence of the congenital foetal anomalies is highest when a pregnancy is complicated by
(a) Hydramnios detectable on clinical examination
(b) Intrauterine growth retardation of the foetus
(c) Maternal diabetes
(d) Congenital heart disease of the mother

64. A parous woman notices a bulge at the vulva that diminishes in size following micturition. She also finds it difficult to initiate micturition. What is the likely diagnosis ?
(a) Uterine prolapse
(b) Fibroid polyp
(c) Cystocele
(d) Congenital elongation of cervix

65. A 30-year-old woman presents with three-month amenorrhoea, pain abdomen for the last two days and fainting attacks for the last eight hours. On examination, her pulse rate is 102/min, the systolic BP is 90 mmHg, and she has (1+) pallor. On abdominal palpation, she has tenderness. She is provisionally diagnosed with ectopic pregnancy. The most likely site of implantation within the fallopian tube is in the
(a) Ampullary region of the tube
(b) Isthmic region of the tube
(c) Interstitial region of the tube
(d) Infundibular region of the tube

66. An 18-year-old girl presents with primary amenorrhoea and gives a history of cyclical colicky abdominal pain. The most probable diagnosis is
(a) Ovarian cyst
(b) Encysted tuberculosis
(c) Full bladder
(d) Haematocolpos

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1. (c) Laying open all layers of the wound and excision of the devitalized tissue

Debridement involves thoroughly opening the wound so that all devitalized or necrotic tissue can be excised. This procedure optimizes healing by preventing bacterial growth and removing tissue that is no longer viable, which might otherwise prolong inflammation or harbor infection. Simply irrigating and cleaning does not achieve full removal of devitalized tissue, and closure in layers or trimming only a millimeter from the wound edge does not adequately address deeper necrotic components.

2. (c) It is the function of specialised fibroblasts that contain actin myofilaments

Wound contracture largely depends on myofibroblasts, which are specialized cells exhibiting features of both fibroblasts and smooth muscle. These cells contain actin filaments that enable them to contract, effectively pulling the wound edges closer. It is not a primary process closing sutured wounds (that relies more on epithelialization and normal healing). Bacterial colonization commonly delays healing. While contraction can substantially reduce wound size, in many instances it can exceed 40% depending on the location and tissue type.

3. (b) 1 and 2 only

HIV primarily spreads via blood and certain body fluids. A needle stick injury can inoculate the virus directly into the healthcare worker's bloodstream, while direct contact with infected blood through mucosal surfaces or open wounds can also transmit the virus. Merely performing an external examination of a patient (intact skin contact) or inhaling near them are not established HIV transmission routes. Therefore, statements 1 (needle stick injury) and 2 (contact with patient's blood) are correct.

4. (c) 15% gluteraldehyde

Commonly recommended scolicidal agents for hydatid cysts include hypertonic saline (20%), silver nitrate (0.5%), and sometimes high-concentration ethanol (absolute alcohol). These agents are lethal to hydatid cyst protoscolices and help prevent secondary cyst formation. Glutaraldehyde, especially at 15%, is generally not a standard agent for this purpose due to safety concerns, potential toxicity, and insufficient data regarding efficacy against echinococcal protoscolices compared to other agents. Thus, 15% gluteraldehyde is the exception here.

5. (c) Carotid body tumour

A carotid body tumor arises from paraganglionic cells (chemoreceptors) located at the carotid bifurcation, making it a "chemodectoma." These tumors detect changes in blood oxygen, carbon dioxide, and pH levels. Cock's peculiar tumor, cystosarcoma phyllodes, and keratoacanthoma are distinct entities unrelated to paraganglia. Cystosarcoma phyllodes (phyllodes tumor) occurs in the breast, keratoacanthoma in the skin, and "Cock's peculiar tumour" (not a recognized formal eponym) is unrelated to the carotid body.

6. (a) It has its greatest effect on multiplying organisms

Most antibiotics interfere with microbial processes linked to growth and replication (e.g., cell wall synthesis, protein synthesis). Consequently, rapidly dividing bacteria are usually more susceptible. Although some immune-enhancing processes (e.g., opsonization, complement activation) can be assisted indirectly, the key mechanism is that antibiotics disrupt bacterial growth or replication. Statements regarding direct enhancement of phagocyte uptake, intracellular killing, or complement activation are not general principles for typical antibiotic action.

7. (c) Parathyroid adenoma

The most frequent cause of primary hyperparathyroidism is a solitary parathyroid adenoma, accounting for the majority of cases. Parathyroid hyperplasia can cause primary hyperparathyroidism, but it is less common and often associated with multiple endocrine neoplasia syndromes. Familial forms also exist but are rarer. Parathyroid carcinoma is a very uncommon etiology. Adenomas lead to excessive parathyroid hormone production, raising calcium levels and often prompting symptoms such as nephrolithiasis and bone pain.

8. (c) Acute left ventricular failure

In acute left ventricular failure, pressure backs up into the lungs (leading to elevated pulmonary capillary wedge pressure), but the right heart may still pump venous return forward effectively, so the central venous pressure does not usually rise significantly and can even be relatively low or normal, especially in early stages. By contrast, pericardial effusion (particularly tamponade), massive pulmonary embolism, and tension pneumothorax often obstruct venous return, causing venous pressures to rise rather than remain low.

9. (a) Buerger's disease

Buerger's disease (thromboangiitis obliterans) is strongly associated with young male smokers and involves segmental, inflammatory occlusion of small- to medium-sized arteries (and veins) of the limbs. This leads to ischemia and, in severe cases, gangrene. While atherosclerosis, diabetes, and embolism can also cause gangrene, the hallmark demographic (young male smoker) and dry gangrene presentation typically suggests Buerger's disease first. Smoking cessation is crucial to halt progression.

10. (b) Venous ulcer of leg

Sympathectomy involves interrupting sympathetic nerves to improve blood flow or reduce overactive sympathetic functions. It is indicated for hyperhidrosis (excessive sweating), Raynaud's disease (where vasospasm is relieved by sympathetic blockade), and causalgia (intense neuropathic pain). In contrast, venous ulcers are generally linked to venous insufficiency and benefit from compression and improving venous return rather than sympathetic disruption. Therefore, venous ulcer of the leg is not a standard indication for sympathectomy.

11. (d) Arteriovenous fistula

Branham's sign (Nicoladoni-Branham sign) is a decrease in heart rate and a rise in blood pressure when an arteriovenous fistula is suddenly compressed. By occluding the fistula, systemic vascular resistance increases (because the blood is no longer shunting away through a low-resistance pathway), provoking a reflex that slows the heart rate. This sign is classically associated with arteriovenous fistulas. It does not occur in simple arterial stenosis, aneurysms, or venous thrombosis.

12. (a) 1, 2 and 3 only

A classic radical neck dissection involves removal of the sternocleidomastoid (sternomastoid) muscle, the ipsilateral internal jugular vein, and the submandibular gland along with other lymphatic structures. The spinal accessory nerve is also commonly sacrificed in a traditional radical dissection. However, the recurrent laryngeal nerve is usually preserved to maintain essential vocal cord function and avoid significant morbidity. Hence, items 1, 2, and 3 are correct, while 4 is not typically removed.

13. (b) Lobular carcinoma of the breast

Lobular carcinoma of the breast is known for frequently being multifocal and bilateral compared with other types such as ductal, medullary, or colloid carcinomas. This tendency arises because lobular carcinoma often exhibits a more diffuse growth pattern, sometimes making it harder to detect on imaging, and its biology predisposes it to appear in both breasts. Ductal carcinoma remains the most common overall, but it is less likely to present as bilateral disease than lobular carcinoma.

14. (d) T4d

Inflammatory breast carcinoma is clinically recognized by diffuse erythema (redness), edema (peau d'orange), and rapid progression. It is considered at least Stage T4 disease, specifically classified as T4d in the TNM system.

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pain often gets worse throughout the day with prolonged standing or activity, rather than upon first awakening (so statement 1 is incorrect). Thus, statements 2, 3, and 4 are correct.

73. (c) Sling operation

Nulliparous uterine prolapse is less common but often requires a procedure that preserves fertility and uterine function. A sling operation (such as Shirodkar sling) supports the cervix and uterus by reinforcing the uterosacral/cardinal ligaments without removing or significantly shortening the cervix. Fothergill (Manchester) procedure can compromise future fertility. A ring pessary is temporary and less ideal for a younger patient desiring pregnancy. Cervical amputation does not address full uterine support and may affect reproduction.

74. (c) Salpingitis isthmica nodosa

Gonococcal salpingitis commonly results in tubal scarring/blockage, hydrosalpinx formation, and increases the risk of ectopic pregnancy due to damage of the fallopian tubes. "Salpingitis isthmica nodosa," however, is a distinct pathologic entity typically involving localized diverticula-like outpouchings of the fallopian tube in its isthmic portion, more closely linked with other chronic processes (e.g., endometriosis or long-standing non-gonococcal infections). Thus, it is not a usual outcome of gonococcal salpingitis.

75. (c) Candidiasis

A "white, flake-like" or "curdy" discharge with vulvar itching and erythema is typical of vulvovaginal candidiasis. Trichomoniasis produces a frothy, yellow-green discharge with possible malodor. Gonorrhea often presents with purulent discharge, whereas pyogenic vulvovaginitis usually involves more severe bacterial infection signs. Candida infection is one of the most common causes of vulvar itching with white patches in the introitus area.

76. (a) Ampicillin

In an uncomplicated urinary tract infection (likely E. coli) with gram-negative rods on urinalysis, a short course of an appropriate antibiotic is indicated. Among the listed choices, ampicillin is the most reasonable for typical community-acquired E. coli if local resistance patterns allow. Ceftriaxone is usually reserved for gonorrhea or complicated infections, fluconazole for fungal infections, and metronidazole for anaerobes or Trichomonas. Hence ampicillin (or amoxicillin) would be the best listed option for an acute UTI.

77. (b) Firm, shotty, painless nodes that do not suppurate

Primary syphilis presents with a chancre (painless ulcer) and typically painless regional lymphadenopathy. The inguinal nodes in syphilis are often described as firm, "shotty," non-tender, and they do not usually suppurate. Painful, suppurative, or necrotic lymph nodes point more toward chancroid or other bacterial infections. Syphilis is known for its relatively painless nature, both at the ulcer site and in the associated lymph nodes.

78. (b) Foul-smelling vaginal discharge

Genital tuberculosis often presents with infertility (due to tubal involvement), chronic pelvic pain, and menstrual irregularities (oligomenorrhea or amenorrhea). The pathology is more insidious, typically lacking the profuse, foul-smelling discharge seen in certain bacterial, anaerobic, or mixed infections. TB tends to cause scarring and minimal discharge rather than a strong odor. Thus, foul-smelling discharge is not a characteristic feature of genital TB, making (b) the correct exception.

79. (c) Vulva

Lesions of the vulva (and the lower third of the vagina) primarily drain to the superficial inguinal lymph nodes. By contrast, cancers of the cervix, uterus, and upper vagina typically metastasize first to pelvic lymph nodes. Hence, finding enlarged superficial inguinal nodes in a 60-year-old with a "genital" malignancy strongly suggests a vulvar primary lesion.

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80. (d) Sulphonamides

Certain medications induce hepatic enzymes or otherwise interfere with estrogen/progestin

support (and sometimes tracheostomy for airway protection) can stabilize the chest wall internally (termed "internal pneumatic stabilization") and improve oxygenation. Towel-clip or operative stabilization is less common, and a chest drain is not indicated without fluid or air collection.

22. (b) Duodenoduodenostomy

In congenital duodenal atresia, a segment of the duodenum is narrowed or blocked. The standard surgical correction is a duodenoduodenostomy—an anastomosis created between the proximal and distal portions of the duodenum to bypass the atretic segment. Gastroduodenostomy would bypass the stomach to part of the duodenum but is not the usual first choice for atresia specifically within the duodenum. Duodenojejunostomy can be used in certain circumstances, but duodenoduodenostomy is considered the classic procedure. Ramstedt's operation is for pyloric stenosis.

23. (d) Rectal tenderness

The Alvarado (MANTRELS) score includes Migration of pain, Anorexia, Nausea/Vomiting, Tenderness in the right lower quadrant, Rebound tenderness, Elevated temperature (fever), Leukocytosis, and Shift of white blood cell count to the left. While rectal examination may be performed and can be tender in some cases, rectal tenderness is not one of the classic components of the Alvarado score. Hence, among these options, rectal tenderness is excluded from that scoring system.

24. (d) Nonoperative management

In blunt renal trauma, stable patients with a contained perirenal hematoma and no evidence of ongoing severe bleeding are commonly managed nonoperatively. This approach typically includes observation, possible transfusion if needed, and serial imaging to ensure the hematoma is not expanding. Immediate surgical exploration is generally reserved for patients who are hemodynamically unstable or show signs of active hemorrhage. Angiographic embolization is an option if there is identified active bleeding on imaging, but stability here supports conservative management.

25. (c) 1, 3 and 4

Inhalation injuries from fires or hot gases typically cause thermal damage to the upper airways (mouth, nasopharynx, larynx) because most of the heat is dissipated before reaching distal airways. Lower down, toxic gases and other combustion products produce chemical rather than pure thermal burns to the trachea, bronchi, and lung parenchyma. Therefore, "thermal burn to the upper airway" (1) is correct, whereas deep thermal burns to the distal bronchial tree (2) are uncommon. Chemical burns of the bronchial tree (3) and lungs (4) do occur.

26. (c) Fracture of the calcaneum

Avascular necrosis (AVN) occurs in bones where blood supply is precarious. Common examples include the scaphoid (especially at the proximal pole), the talus (due to its tenuous vascular supply), and subcapital femoral neck fractures (disrupting retinacular branches of the medial circumflex femoral artery). The calcaneum's blood supply is more robust and less prone to complete vascular compromise after fracture, so it is least likely among these options to develop AVN.

27. (a) Median nerve

Carpal tunnel syndrome results from increased pressure in the carpal tunnel of the wrist, compressing the median nerve. Patients typically experience numbness, tingling, or pain in the thumb, index, middle, and radial half of the ring finger. The ulnar nerve runs outside the carpal tunnel (Guyon's canal), and the radial nerve divides more proximally and does not traverse the carpal tunnel. The radial artery is also not part of that tight osseofibrous tunnel.

28. (b) the right main bronchus is shorter, wider and nearly vertical

When foreign bodies are aspirated, they often follow the path of least resistance. The right main bronchus is typically more vertical, shorter, and wider than the left. Because of this anatomical orientation, an aspirated object is statistically more likely to pass into the right lung. The left main bronchus takes a more angled, narrower route. Therefore, the geometry of the right

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T4a involves chest wall invasion, T4b involves skin ulceration or satellite skin nodules, and T4c is a combination of T4a and T4b. T4d is reserved for the classic inflammatory presentation with skin changes over a large portion of the breast.

15. (d) Staphylococcus aureus

Overwhelming post-splenectomy infection is most commonly linked to encapsulated organisms, notably Streptococcus pneumoniae, Haemophilus influenzae type b, and Neisseria meningitidis. The spleen plays a key role in opsonizing these bacteria. While Staphylococcus aureus can cause severe infections, it is not the classic organism implicated in overwhelming post-splenectomy sepsis. Therefore, among the listed choices, Staphylococcus aureus is the least associated with this dangerous complication compared with the others.

16. (d) Hydatid cyst of the spleen

Splenectomy is often beneficial or necessary in conditions with excessive splenic destruction of blood cells or certain hematologic malignancies. For instance, hereditary spherocytosis and ITP (idiopathic thrombocytopenic purpura) frequently improve post-splenectomy. In myelofibrosis, splenectomy is sometimes indicated to manage symptomatic splenomegaly. However, for a hydatid cyst of the spleen, the recommended approach is typically cyst-specific treatment (e.g., partial splenectomy or cyst excision) while preserving splenic function if possible. Hence, complete splenectomy is not routinely indicated.

17. (d) Injection of sclerosant is made above the dentate line (pectinate line)

Injection sclerotherapy targets the submucosal plexus in internal haemorrhoids. The pectinate (dentate) line demarcates the transition to somatic innervation below and autonomic innervation above. Sclerosants are injected above this line to minimize pain and focus on the vascular cushions. Sclerotherapy is not the ideal treatment for acute external haemorrhoids; surgical excision or conservative measures are often preferred. Also, large prolapsed haemorrhoids are better managed by other modalities (e.g., banding or surgery).

18. (c) Ilio-inguinal nerve

The ilio-inguinal nerve passes close to the superficial inguinal ring and often crosses the area of a McBurney's incision. During an open appendicectomy, this nerve can be at risk if dissection extends too far laterally or inferiorly. Injury to the ilio-inguinal nerve can lead to numbness or pain in the groin or upper medial thigh region. Subcostal, genitofemoral, and lateral cutaneous nerves of the thigh typically follow distinct pathways away from the classic McBurney's approach.

19. (a) Left gastric

The pancreas receives blood from branches of the splenic artery (which runs along its superior border), the gastroduodenal branch of the common hepatic artery, and the superior mesenteric artery. The left gastric artery primarily supplies the stomach's lesser curvature and does not contribute significantly to the pancreatic vasculature. Thus, although close in proximity, it is not a routine source of arterial supply to the pancreas, making it the exception in this list.

20. (d) Serum calcium < 2·0 mmol/L

Ranson's criteria for acute pancreatitis are divided into those assessed on admission and those within 48 hours. On admission, the five parameters are: age >55 years, WBC count >16,000/mm^3, blood glucose >200 mg/dL, LDH >350 IU/L, and AST >250 IU/L. Low serum calcium (<2.0 mmol/L or <8 mg/dL) is indeed important but it is measured later during the course (within 48 hours), not at admission. Therefore, it is excluded from the admission criteria.

21. (a) Tracheostomy, mechanical ventilation and positive end-expiratory pressure ventilation

Multiple rib fractures causing a flail chest segment lead to paradoxical movement and a high risk of inadequate ventilation, especially with underlying pulmonary contusion. Even if vitals are initially stable, significant underlying lung injury can worsen breathing mechanics. Positive pressure ventilation with adequate

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nerve (CN VI), which travels over the petrous apex region. The abducens nerve has a long intracranial course and is vulnerable to stretching or compression in base-of-skull fractures. While fractures affecting the internal acoustic canal can impair CN VII or VIII, that canal is typically in the posterior fossa. The sixth nerve is therefore more often implicated with middle fossa injuries.

37. (d) Lumbosacral spine

Meningomyelocele, a form of spina bifida, most frequently occurs in the lumbosacral region. This defect involves protrusion of meninges and spinal cord elements through a vertebral defect. The lumbosacral area is the most commonly affected site for neural tube anomalies, often presenting at birth with a saclike lesion in the lower back, possible neurological deficits in the lower limbs, and potential bowel/bladder involvement.

38. (d) Left ventricular end diastolic volume (LVEDV)

A Swan-Ganz catheter inserted into the pulmonary artery can directly measure pulmonary artery pressures, pulmonary capillary wedge pressure (an indirect index of left atrial pressure), cardiac output (via thermodilution), and mixed venous oxygen saturation. It does not directly measure the left ventricular end-diastolic volume. Although PAWP is often used as a surrogate for left ventricular preload, the actual LVEDV remains an indirect inference rather than a direct measurement by the catheter.

39. (a) Bupivacaine

Bupivacaine is notably cardiotoxic, especially if accidentally administered intravascularly in higher doses. It can produce severe ventricular arrhythmias and profound cardiac arrest that is notoriously difficult to resuscitate. Lignocaine, prilocaine, and cocaine can certainly have toxic effects, but bupivacaine's potent blockade of cardiac sodium channels can lead to "irreversible" or refractory cardiac arrest, a recognized clinical complication. Lipid emulsion therapy is now recommended in severe bupivacaine toxicity.

40. (c) Factors V and VIII

Factors V and VIII are known as the "labile" factors that degrade relatively quickly in stored blood. As stored blood gets older, levels of these factors drop significantly, limiting its capacity to correct coagulopathy dependent on them. The more stable clotting factors (such as factor II, IX, and X) remain relatively intact. This is why massive transfusion of older stored blood can be associated with deficiencies in V and VIII if not balanced with fresh frozen plasma.

41. (b) 1 and 2 only

Human chorionic gonadotropin (HCG) is a glycoprotein composed of alpha and beta subunits, so statement 1 is correct. Its levels peak around 8–10 weeks of gestation (roughly day 60–70), so statement 2 is correct. However, HCG is chiefly produced by the syncytiotrophoblasts, not the cytotrophoblasts. Hence statement 3 is incorrect. Therefore, only statements 1 and 2 are correct.

42. (c) The systemic vascular resistance is increased

During pregnancy, marked vasodilation occurs due to hormonal and vascular changes, decreasing systemic vascular resistance (SVR). Meanwhile, cardiac output and stroke volume both rise significantly to meet the increased circulatory demands. Plasma volume also increases more than red cell mass, tending to lower serum colloid oncotic pressure. Thus, the statement "the systemic vascular resistance is increased" is incorrect; in fact, SVR is notably reduced in normal pregnancy.

43. (d) Breast-feeding

Multiple interventions reduce mother-to-child (perinatal) HIV transmission: giving antiretroviral therapy (ART) during pregnancy and intrapartum, using elective cesarean delivery under certain viral load thresholds, and giving ART prophylaxis to the newborn all lower transmission risk. In resource-rich settings, avoiding breastfeeding also reduces risk, as HIV can be transmitted via breast milk. Hence, continuing breastfeeding is not considered a measure that reduces transmission—indeed, it

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58. (a) Pre-eclampsia

Uterine atony risk factors primarily involve over-distention or overstimulation of the uterus: multiple gestation, polyhydramnios (hydramnios), prolonged or excessive oxytocin infusion, macrosomia, etc. These conditions can fatigue the uterine muscle, reducing its ability to contract effectively after delivery. Pre-eclampsia is not classically associated with uterine atony; in fact, the smaller, possibly growth-restricted baby (common in pre-eclampsia) means the uterus is often less distended. Therefore, pre-eclampsia is the outlier among the listed options.

59. (c) Hysterectomy

Placenta increta (abnormal placental penetration into the myometrium) can cause life-threatening hemorrhage if the placenta cannot be separated. In a multiparous woman who has completed childbearing, definitive management is hysterectomy to control bleeding and remove the invasive placenta. While conservative approaches (e.g., uterine packing, internal iliac artery ligation) can be attempted in certain placenta accreta spectrum cases with future fertility desires, severe hemorrhage from increta often necessitates hysterectomy for definitive control.

60. (c) ARM with oxytocin drip

With a significantly effaced (and presumably favorable) cervix at term, artificial rupture of membranes (ARM) plus a controlled oxytocin infusion is a standard and effective method to induce or augment labor. Prostaglandins (like dinoprostone) are typically used to ripen an unfavorable cervix; however, this cervix is already 80% effaced. Carboprost (a prostaglandin F2α) is used mostly for refractory postpartum hemorrhage or, less commonly, for induction in certain cases, not for a routine induction in a favorable cervix scenario.

61. (b) 1 and 3 only

Typically, at term, the biparietal diameter (BPD) and the submentobregmatic diameter each measure roughly 9.4–9.5 cm. The suboccipitofrontal diameter is generally about 10–10.5 cm, while the bitrochanteric diameter (across the fetal pelvis) is close to 9 cm but is less relevant for presentation. Therefore, the correct diameters near 9.4 cm at term are the biparietal (1) and submentobregmatic (3).

62. (c) Retained bits of placenta and membranes

Persistent postpartum bleeding weeks after delivery, with the uterus still enlarged (14–16 weeks size) and an open os, strongly suggests subinvolution of the uterus due to retained products of conception (placental fragments, membranes). "Excessive physical work" or "perineal tears" do not usually cause significant ongoing uterine enlargement and continuous bleeding so long after birth. Evacuation of the retained tissue typically allows the uterus to involute and resolves the bleeding.

63. (c) Maternal diabetes

Poorly controlled maternal diabetes significantly increases the risk of congenital fetal anomalies (e.g., cardiac defects, neural tube defects) due to hyperglycemia's teratogenic effects early in pregnancy. While hydramnios, IUGR, and maternal heart disease may indicate various high-risk issues, they are generally not as strongly linked with a high incidence of multiple congenital anomalies as maternal diabetes. Good glycemic control before and during pregnancy helps reduce this risk.

64. (c) Cystocele

A cystocele occurs when the bladder herniates into the anterior vaginal wall, creating a noticeable bulge that may be felt or seen at the introitus. It often becomes more prominent when the bladder is full and can partially recede (diminish in size) after voiding. Difficulty initiating micturition and incomplete emptying are also common. Uterine prolapse or fibroid polyps have different clinical signs and do not typically shrink noticeably after voiding.

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65. (a) Ampullary region of the tube

While tubal ectopic pregnancies can occur anywhere along the fallopian tube, the ampullary region (the widest segment) is the most common site, accounting for the majority of tubal ectopics. The isthmus and interstitial

RBC passage from fetus to mother. Incoordinate uterine action alone does not inherently cause a mixing of maternal and fetal blood. Hence, it typically does not contribute to increased risk of Rh incompatibility.

51. (a) Magnesium sulphate

Magnesium sulphate is the gold-standard anticonvulsant for eclampsia (seizures associated with severe preeclampsia). It reduces neuromuscular excitability without causing significant sedation of the mother or fetus when used correctly. Other medications like diazepam, phenytoin, or phenobarbital can also control seizures but have not been shown to be as effective or as safe as magnesium sulphate in preventing recurrent convulsions in eclamptic patients.

52. (d) Posterior fontanelle is anterior to the maternal sacrum with the sagittal suture anteroposterior

In an occipito-posterior (OP) position, the fetal occiput points toward the mother's sacrum. On examination, the smaller, triangular posterior fontanelle is felt closer to the pubic aspect (i.e., "anterior" in the pelvis relative to the sacrum), while the sagittal suture lies in an anteroposterior plane. This contrasts with an occipito-anterior position, where the posterior fontanelle is nearer the fetal back and thus felt posteriorly.

53. (c) Perform LSCS (Lower Segment Caesarean Section)

Bandl's ring suggests obstructed labor or an advanced, pathological retraction ring. The mother's shock (pulse 150/min) and lack of engagement of the presenting part indicate dangerous obstruction. Further attempts to augment or do instrumental vaginal delivery risk uterine rupture. The definitive management for obstructed labor with maternal compromise is an immediate cesarean section to deliver the fetus and resolve the obstruction, preventing severe complications.

54. (a) Forceps application

With a fully dilated cervix, adequate pelvis, vertex at +2 station, and maternal exhaustion, an assisted vaginal delivery is indicated. Forceps can provide a quicker, controlled delivery compared to a vacuum—especially when the mother is too fatigued to push effectively. A caesarean at this low station is typically avoided unless there are contraindications to instrumental delivery. "Wait and watch" further risks fetal or maternal compromise when exhaustion is already a factor.

55. (b) ARM (Artificial Rupture of Membranes)

Once the first twin is delivered, the next step for a cephalic second twin (and the cervix is already fully dilated) is to expedite delivery. If profuse bleeding starts, confirming and rupturing membranes (ARM) helps the uterus contract around the second twin and facilitates delivery. Removing the first twin's placenta prematurely is contraindicated until both twins are delivered. External or internal podalic versions are used if the second twin is malpresenting (breech/transverse), not when it's already cephalic.

56. (d) Apply forceps and deliver

With full dilation and the head at +2 station, an instrumental vaginal delivery is feasible. The fetal heart rate of 172/min suggests possible fetal distress (tachycardia). In a multiparous woman with a well-engaged head, forceps provide a swift, controlled delivery and immediate relief of possible distress. Ventouse is an option but forceps typically act faster in urgent scenarios. Waiting could risk further compromise, and a cesarean is less practical when the head is already low.

57. (b) Give her a trial of labour

A diagonal conjugate of 11 cm is borderline but not definitively too small. In a primigravida with no immediate distress, one usually offers a closely monitored trial of labour to assess true labor dynamics. If the fetal head descends adequately and no signs of obstructed labour appear, vaginal delivery may be possible. An immediate caesarean or aggressive augmentation is not indicated without evidence of disproportion or fetal/maternal compromise. Safe, supervised hospital management is essential.

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may increase transmission if maternal viral load is detectable.

44. (c) Extra-amniotic ethacridine

After the first trimester (beyond around 12–14 weeks), suction curettage is less practical. For mid-trimester (around 16 weeks), extra-amniotic ethacridine lactate infusion is a traditional and effective method to induce uterine contractions and cervical dilation for evacuating fetal demise. Prostaglandin preparations (e.g., misoprostol) are also used, but ethacridine infusion remains a classic technique for second-trimester terminations in many settings. Hysterotomy is more invasive, and high vaginal dinoprostone gel is more commonly used for cervical ripening at or near term.

45. (b) 1, 3 and 5

In a third-trimester bleed where the patient is hemodynamically stable, the initial priorities include:

1. Ultrasound – to identify placental position (suspect placenta previa or abruptio placenta).
2. Hospitalization and bed rest – to monitor mother and fetus.
3. IV fluids – to maintain adequate volume status given her moderate pallor and potential for further bleeding.

Performing a digital or speculum exam without first ruling out placenta previa is contraindicated. "Watch for labour" alone is too passive without proper diagnostics and supportive care.

46. (c) Persistent trophoblastic disease

Persistence of gestational trophoblastic tissue after a pregnancy event (including abortion) can lead to gestational trophoblastic neoplasia. Continued high β-hCG levels cause the uterus to remain soft and bulky, and theca lutein cysts can enlarge both ovaries. Profuse, irregular bleeding with a positive pregnancy test months after an abortion is highly suggestive. Malignant ovarian tumors, incomplete abortion, and dysfunctional uterine bleeding do not typically present with markedly elevated β-hCG and enlarged, cystic ovaries.

47. (b) Abruptio placenta

Abruptio placentae (placental abruption) often presents in the third trimester with sudden-onset abdominal pain, uterine tenderness, vaginal bleeding (which can be concealed or revealed), and fetal distress or demise. Hypertension (PIH) is a major risk factor. The "painful bleeding" plus loss of fetal movements is highly characteristic. Placenta praevia typically presents with painless bleeding, while uterine rupture presents with catastrophic abdominal pain and abnormal fetal station. Vasa praevia bleeding is typically painless but accompanied by fetal heart rate abnormalities.

48. (a) Ectopic pregnancy

A 2-month amenorrhea with acute abdominal pain, syncope (suggesting internal bleeding or hemodynamic compromise), minimal vaginal bleeding, and tachycardia/pallor points to a likely ruptured or impending rupture of an ectopic pregnancy. Such patients often present with signs of intraperitoneal bleeding (shock, rebound tenderness). By contrast, a molar pregnancy usually features excessive uterine enlargement and higher-than-expected β-hCG, while inevitable or missed abortion often present with different bleeding profiles and less acute hemodynamic compromise.

49. (d) Aspirin and Heparin

Antiphospholipid syndrome is a known cause of recurrent pregnancy loss. Standard management in pregnancy includes low-dose aspirin plus low-molecular-weight heparin (LMWH). This combination reduces placental thrombosis, improving pregnancy outcomes. Corticosteroids are no longer routinely used unless specific autoimmune indications exist. Aspirin alone or heparin alone is less effective than combined therapy at preventing miscarriage in women with confirmed antiphospholipid antibodies.

50. (c) Incoordinate uterine action

Rhesus sensitization usually occurs when fetal red blood cells enter the maternal circulation (feto-maternal hemorrhage). Events like amniocentesis, placental abruption, and abortion (spontaneous or induced) can facilitate

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portions are narrower and less frequently the implantation location, though ectopics there tend to present earlier or with more dramatic symptoms. Given a classic presentation of ectopic pregnancy, ampullary involvement is statistically the most likely.

66. (d) Haematocolpos

Primary amenorrhea accompanied by cyclic abdominal pain strongly suggests an outflow tract obstruction in which menstrual blood cannot escape. Haematocolpos—blood accumulation in the vagina—often arises from an imperforate hymen or a high transverse vaginal septum. Over time, this retained blood causes the uterus and vagina to distend, producing colicky pain in sync with menstrual cycles. Ovarian cysts, tuberculosis, or a distended bladder do not typically produce cyclical pain with amenorrhea in this manner.

67. (c) Primary dysmenorrhoea

Primary dysmenorrhea is characterized by painful menstrual cramps starting with or just after the onset of menstruation, with no identifiable pelvic pathology. The pain typically lasts the first few days of the period. While her flow may be somewhat heavy, the normal pelvic exam rules out obvious uterine fibroids (leiomyomas), endometriosis (which often causes pain before menses and may have exam findings), or adenomyosis (commonly associated with a boggy, enlarged uterus).

68. (d) If epimenorrhoea is associated with heavy menstrual loss it is called menometrorrhagia

"Epimenorrhoea" (or polymenorrhea) refers to abnormally frequent but cyclical menstruation, often with a cycle length shorter than 21 days. It is commonly seen at the extremes of reproductive age. If these frequent cycles also have excessive flow, the term "polymenorrhagia" applies. "Menometrorrhagia," by contrast, is irregular and excessive bleeding, not simply frequent cyclical bleeding plus heavy flow. Thus, statement (d) incorrectly equates heavy epimenorrhoea with menometrorrhagia.

69. (a) Tranexamic acid

In cases of dysfunctional uterine bleeding (DUB) presenting as heavy cyclical menstrual loss (menorrhagia), a common first-line option is tranexamic acid. It is an antifibrinolytic that reduces menstrual blood loss by helping stabilize clots within the endometrium. While hormonal therapies (progesterone alone, combined estrogen-progesterone) can also be used, the immediate, non-hormonal measure to control heavy bleeding is often tranexamic acid. It can be especially useful for patients wishing to avoid hormonal effects or who need prompt reduction in bleeding.

70. (d) Retroverted uterus

A retroverted uterus is one where the uterine fundus tilts posteriorly, while the cervix points anteriorly. In a normal, mobile retroversion, the uterus can be gently lifted or "anteposed" without difficulty. The absence of abnormal masses, nodularity, or fixity helps differentiate it from pathologies like endometriosis, posterior uterine tumors, or large ovarian cysts in the pouch of Douglas. Simple, non-adherent retroversion is often a normal variant.

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71. (a) Anterior colporrhaphy, posterior colpoperineorrhaphy and perineal repair

Cystocele (anterior wall defect) and rectocele (posterior wall defect) require surgical repair of the respective vaginal compartments for symptomatic relief. Additionally, the perineal support may need tightening (perineorrhaphy) if there is pelvic floor laxity. Since the cervix is still above the introitus, a simple pelvic floor repair addressing anterior and posterior compartments (plus perineum) is often sufficient. Fothergill's operation primarily addresses mild uterine descent, and a sling operation/pessary is typically reserved for more advanced uterine prolapse or different circumstances.

72. (d) 2, 3 and 4

Backache related to pelvic organ prolapse is typically a dull, diffuse ache over the sacral area, without localized tenderness. It is more common in multiparous women, whose pelvic support structures have been strained by multiple pregnancies and deliveries. The

bronchus strongly predisposes it to be the site of inhaled foreign body lodgement.

29. (b) Involvement of both the lobes but the disease has extended through the prostatic capsule

Prostate cancer staging T3 indicates local extension beyond the capsule. T3a typically denotes extraprostatic extension (which can be unilateral or bilateral) without involving the seminal vesicles. T3b involves seminal vesicle invasion. T2 disease (organ-confined) means no capsular breach, while T4 indicates spread to adjacent structures such as the pelvic wall. Therefore, T3a means the tumor has penetrated through the capsule but has not invaded the seminal vesicles or pelvic walls.

30. (a) It is the most common type of testicular cancer

Seminoma is indeed the most common single histological type of testicular germ cell tumor, typically presenting in young adults. It is also highly radiosensitive and chemotherapy-responsive, which means its cure and survival rates are excellent, far exceeding 50%. While advanced cases can metastasize, the statement about frequent metastasis specifically to liver and bones is not characteristic in early stages. The hallmark feature is that seminomas respond well to radiation therapy and have a favorable prognosis.

31. (c) White reflex in pupil

Retinoblastoma often presents with leukocoria or a "white pupillary reflex," where the pupil appears white or yellowish when light is shone. This may be noticed by parents in photographs with flash ("cat's eye" reflex). While children can eventually have vision problems or other signs, the classic hallmark that prompts evaluation is the white reflex. Pain, proptosis, or redness appear later or in more advanced cases, making leukocoria the most typical initial clinical clue.

32. (b) 10-20

Normal intraocular pressure (IOP) generally ranges between about 10 and 21 mmHg, depending on the method of measurement (e.g., Goldmann applanation tonometry). Values in the 10-20 mmHg window ensure adequate perfusion of ocular structures without causing excessive stress on the optic nerve. Pressures higher than 21 mmHg can be suspicious for glaucoma, while pressures lower than 10 mmHg are less common and may indicate hypotony.

33. (a) Nerve decompression

When a temporal bone (mastoid) fracture affects the facial nerve canal and results in acute facial nerve paralysis, surgical decompression is often indicated, especially if the palsy is immediate and complete. This relieves pressure on the nerve within the bony canal. While steroids can assist in reducing inflammation, they are typically adjunctive. Sling operations and nerve grafting are more specialized procedures reserved for severe or chronic cases where the nerve is transected or not viable.

34. (c) Mixed otosclerosis

Otosclerosis commonly starts as a fixation of the stapes (conductive loss) but can progress to involve the cochlea (cochlear or "retro-fenestral" otosclerosis). This advanced process leads to a sensorineural component, making it a "mixed" hearing loss. Eustachian tube blockage, tympanic membrane rupture, and atelectatic middle ear primarily cause conductive deficits. Although "mixed otosclerosis" implies both conductive and sensorineural elements, the sensorineural component arises from lesions in the cochlea itself.

35. (d) Laryngomalacia

Laryngomalacia is the most frequent congenital laryngeal anomaly causing inspiratory stridor in neonates. It happens when supraglottic structures are floppy and collapse inward during inspiration, producing the characteristic high-pitched stridor. Though congenital subglottic stenosis, webs, or vocal cord paralysis can also cause neonatal stridor, laryngomalacia accounts for the majority of such cases and often improves as the cartilage strengthens over time.

36. (a) Sixth cranial nerve

A basilar skull fracture extending through the middle cranial fossa can injure the abducens

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absorption, thus reducing oral contraceptive effectiveness. Barbiturates and rifampicin are strong enzyme inducers, while some broad-spectrum antibiotics (like ampicillin) may alter gut flora, potentially diminishing contraceptive hormone reabsorption. Sulfonamides, however, are not classically implicated in reducing OCP efficacy, making them the exception among the listed options.

81. (c) Both 1 and 2

Epidemiological studies suggest diets rich in vitamin C may reduce risk of certain gastrointestinal malignancies by inhibiting nitrosamine formation. Vitamin C blocks the chemical reaction between nitrites and amines, preventing the formation of these carcinogens. Hence, both statements accurately describe vitamin C's potential protective role.

82. (b) Jejunum

Most dietary iron is absorbed in the duodenum and upper jejunum. Since "duodenum" is not listed, jejunum is the next most accurate among these options. The stomach primarily helps solubilize iron via acid, but not absorb it. The ileum is more important for vitamin B_{12} absorption, and the colon is not a major site of mineral uptake.

83. (b) Digestibility and amino acid composition

"Biological value" measures how efficiently the body can utilize a dietary protein. It depends largely on (1) the balance and proportion of essential amino acids (amino acid composition) and (2) how well the protein can be digested and absorbed. A protein that is well-digested and contains essential amino acids in proportions matching human needs generally has a higher biological value.

84. (d) Pneumocystis carinii (now Pneumocystis jirovecii)

In untreated or advanced HIV/AIDS with low CD4 counts, Pneumocystis pneumonia (PCP), caused by Pneumocystis jirovecii (formerly Pneumocystis carinii), is one of the most frequent life-threatening opportunistic infections. Although atypical mycobacteria (MAC), certain bacteria (e.g., H. influenzae), and fungi can also be problematic, PCP is historically recognized as the single most common and classic opportunistic infection in AIDS patients.

85. (b) One tablet of 0·75 mg Levonorgestrel to be taken soon after the act of unprotected coitus but within 72 hours

A traditional regimen for Levonorgestrel emergency contraception was two doses of 0.75 mg each, 12 hours apart, within 72 hours of unprotected intercourse. Some protocols allow a single 1.5 mg dose instead. While guidelines have evolved (sometimes permitting use up to 120 hours), the classic recommendation remains administration as early as possible, preferably within 72 hours. Option (b) best matches the standard older protocol for a single 0.75 mg dose within that 72-hour window (assuming the second 0.75 mg follows).

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86. (d) Folic acid

Adequate folic acid intake before conception and during early pregnancy significantly reduces the risk of neural tube defects (e.g., spina bifida, anencephaly) in the fetus. Current guidelines advise at least 400 micrograms of folic acid daily, starting ideally one month prior to conception and continuing through the first trimester. Thiamine, riboflavin, or vitamin B_{12} supplementation helps prevent other deficiencies but does not specifically target neural tube defect prevention.

87. (d) A-3 B-1 C-2 D-4

Thiamine (vitamin B_1) deficiency leads to beriberi, where "wet" beriberi can present with heart failure. Niacin (vitamin B_3) deficiency causes pellagra ("3 Ds": dermatitis, diarrhea, dementia). Retinol (vitamin A) deficiency is classically associated with xerophthalmia and Bitot's spots. Cholecalciferol (vitamin D) deficiency manifests as rickets in children, one sign of which is the tri-radiate (trident) appearance of the pelvis.

88. (a) Lead poisoning

Wrist drop (inability to extend the wrist) is often due to radial nerve palsy or dysfunction

3 Kartar Singh Committee (1973) introduced the concept of male and female multipurpose health workers, effectively replacing the single-function ANM with broader roles.
4. Srivastava Committee (1975) recommended reorientation of medical education, including specific community medicine (PSM) training.

106. (d) A-3 B-2 C-1 D-4

1. Human body louse transmits epidemic typhus (Rickettsia prowazekii).
2. Fleas transmit endemic (murine) typhus (R. typhi).
3. Ticks spread viral hemorrhagic fevers like Kyasanur Forest Disease (KFD) and also certain rickettsial infections.
4. Sand flea (phlebotomine sand fly) is the vector for Leishmania donovani, causing kala-azar (visceral leishmaniasis).

107. (c) Soft tick

Relapsing fever is most commonly caused by certain species of Borrelia (e.g., Borrelia recurrentis, Borrelia duttoni). The louse-borne form (by Pediculus humanus) is seen in epidemic relapsing fever, whereas the tick-borne form is transmitted by soft ticks (genus Ornithodoros). Tsetse flies transmit African sleeping sickness (Trypanosoma), sand flies transmit leishmaniasis, and hard ticks more commonly transmit diseases like Rocky Mountain spotted fever or Lyme disease. Thus, soft ticks are the correct vector for relapsing fever.

108. (c) Man – mosquito – man

Japanese encephalitis (JE) virus is maintained in a natural cycle involving pigs, water birds, and Culex mosquitoes. Pigs serve as important amplifying hosts, and birds also act as reservoirs. Humans are generally "dead-end" hosts: once infected, they typically do not develop a viremia sufficient to infect new mosquitoes. Therefore, a cycle of man – mosquito – man transmission is not sustained in JE. "Pig – mosquito – pig" and "bird – mosquito – bird" are recognized cycles, and cattle can sometimes be incidental in certain areas.

109. (d) Linoleic acid

Fatty acids are classified based on their degree of saturation. Palmitic acid and stearic acid are saturated, having no double bonds. Oleic acid (found in olive oil) is monounsaturated, having one double bond. Linoleic acid (an essential fatty acid) has two double bonds, making it polyunsaturated. Linoleic acid is found in many vegetable oils (e.g., sunflower, safflower) and is important for membrane fluidity and various physiological processes.

110. (a) Coconut oil

Coconut oil is predominantly composed of saturated fatty acids (notably lauric and myristic acids) and contains very little linoleic acid (a polyunsaturated fatty acid). Mustard oil, groundnut (peanut) oil, and corn oil each have higher proportions of unsaturated fatty acids, including linoleic acid. Therefore, coconut oil stands out for having the lowest percentage of linoleic acid among the listed oils.

111. (d) A-3 B-1 C-2 D-4

1. Infectivity: The agent's ability to enter, survive, and multiply (3).
2. Pathogenicity: The ability to produce overt clinical illness or signs (1).
3. Virulence: The ability to cause severe disease (2).
4. Communicability: The extent or ease with which an agent spreads from one host to another (4).

This matching aligns with the classical epidemiological definitions.

112. (d) Age

Coronary heart disease (CHD) risk factors are divided into modifiable and non-modifiable. Age, gender (especially male sex), and family history/genetics cannot be changed. Smoking, hyperlipidemia (high cholesterol), and alcohol abuse are modifiable through lifestyle or medical interventions. Therefore, among the listed options, age is the prototypical non-modifiable risk factor for CHD.

113. (b) Primary prevention of RF/RHD

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reflects chronic malnutrition, and weight-for-age (underweight) can reflect both acute and chronic undernutrition. Mid-upper-arm circumference is also a useful field measure of wasting, but the classic anthropometric index for acute malnutrition remains weight-for-height.

97. (c) Vitamin D

Craniotabes—ping-pong-like depressibility of the skull bones—appears when the cranial bones are soft and thin, often in rickets (vitamin D deficiency) for infants and young children. It can occasionally be noted in other conditions (e.g., syphilis), but rickets is the classic nutritional cause. Vitamins A, C, or K deficiencies lead to different clinical manifestations (e.g., night blindness, scurvy, bleeding tendencies) rather than craniotabes.

98. (b) 70 Kcal

A typical medium-sized hen's egg (50–55 g) contains about 70 kilocalories, roughly 6 g of protein, and 5 g of fat. Variations in size and preparation method can slightly alter total calories. The other listed values are either too low (50) or too high (90–110) for an average egg without added cooking ingredients.

99. (b) 1, 2 and 4

In India, a Community Health Centre (CHC) typically provides secondary-level care and should have at least four specialists: a physician, a pediatrician, an obstetrician-gynecologist, and a surgeon. Dermatology and venereology services, while helpful, are generally not mandated core specialties at a CHC level. Hence, Pediatrics (1), Obstetrics & Gynaecology (2), and Surgery (4) are included.

100. (c) 95·4

In a normal (Gaussian) distribution, approximately 95.4% of observations lie within ±2 standard deviations of the mean. About 68% lie within ±1 SD, and 99.7% lie within ±3 SD. These percentages are classic "68–95–99.7" rule-of-thumb values for the normal curve.

101. (a) 4 weeks

According to immunization schedules, DPT (Diphtheria, Pertussis, Tetanus) vaccine primary doses are typically spaced at least 4 weeks apart for infants. This spacing ensures adequate immune response while not waiting too long between doses. Six to eight weeks might be too long or may delay full protection.

102. (b) Specificity

Specificity measures how well a test can correctly classify healthy individuals (true negatives) as disease-free. A highly specific test has few false positives. Meanwhile, sensitivity refers to picking up most true disease cases (few false negatives). Predictive values depend both on the test's accuracy and the disease prevalence in the population.

103. (c) Yellow Fever Vaccine

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The yellow fever vaccine is a classic example of a live attenuated viral vaccine. Hepatitis B vaccine is a recombinant subunit vaccine, Salk polio vaccine (IPV) is inactivated, and Japanese Encephalitis vaccines can be inactivated or (in some newer forms) live-attenuated—but traditionally, in many programs, it is given as an inactivated vaccine. The well-known, widely used YF vaccine (17D strain) is definitely a live attenuated preparation.

104. (a) Strength of association between suspected cause and effect

Relative Risk (RR) is the ratio of incidence of disease among those exposed to a factor versus those not exposed. It quantifies how strongly a particular exposure is associated with the outcome. Higher RR indicates a stronger association (though not automatically implying causation). Biological plausibility, temporal sequence, and specificity are other Bradford Hill "criteria" for assessing causality but are not what RR directly measures.

105. (b) A-1 B-2 C-3 D-4

1. Bhore Committee (1946) recommended a three-tier health system with strong referral services.
2. Mudaliar Committee (1961) emphasized strengthening district hospitals.

of the extensor muscles in the forearm. Chronic lead exposure can damage the motor neurons innervating these muscles, leading to the classic wrist drop. Diabetes mellitus, alcoholism, or beriberi can cause neuropathies, but they are more likely to present with distal sensory loss or mixed motor-sensory deficits rather than the classic radial nerve–type palsy typical in lead poisoning.

89. (a) Urinary tract infection

Urinary tract infections are the most frequently encountered nosocomial infections, especially in patients with indwelling urinary catheters. Bacteria can ascend along the catheter, leading to symptomatic or asymptomatic bacteriuria. While hospital-acquired pneumonia, surgical site infections, and bloodstream infections are also major concerns, UTIs generally top the list in overall frequency in many hospital settings. Preventive measures include minimizing catheter use and adhering to aseptic technique.

90. (c) A-4 B-1 C-2 D-3

The kata thermometer is designed to measure very low air velocities or the cooling power of air. A globe thermometer (with a blackened bulb) assesses mean radiant temperature in the environment. An anemometer measures airspeed, especially higher velocities (wind speed). A sling psychrometer measures relative humidity using wet- and dry-bulb readings.

91. (b) Calymmatobacterium granulomatis

Donovaniasis (also called granuloma inguinale) is caused by Calymmatobacterium granulomatis (now referred to as Klebsiella granulomatis). It presents with painless, progressive ulcerative lesions on the genitals without significant lymphadenopathy. Haemophilus ducreyi causes chancroid, herpes simplex virus causes herpes genitalis, and Chlamydia trachomatis has multiple serotypes causing different clinical syndromes, but not Donovaniasis.

92. (b) 5,000

In the Indian public health setup, a male Health Assistant (sometimes called a male multi-purpose worker) typically covers about 5,000 people, complementing the female health worker in delivering preventive, promotive, and basic curative services in the community. Higher-level facilities (e.g., Primary Health Centres) cater to larger populations, but the individual health worker's catchment area remains around 5,000.

93. (c) Virulence

Case Fatality Rate (CFR) is the proportion of deaths among identified cases of a disease within a specific time. It reflects how likely a disease is to kill a person once infected and thus indicates the virulence or severity. Infectivity concerns how easily the disease spreads, endemicity pertains to its ongoing presence in a region, and chronicity addresses its long-lasting course. CFR specifically addresses lethality among those infected.

94. (b) 2-3 weeks

Mumps, caused by the paramyxovirus, typically has an incubation period ranging from about 16 to 18 days on average (roughly 2–3 weeks). Patients then often develop parotid gland swelling, fever, and malaise. More prolonged or very short incubation times are less characteristic for mumps.

95. (c) Measles

"Cluster testing" in public health often refers to the technique of visiting households in a specified "cluster" or area to detect additional cases, commonly used in diseases that occur in outbreaks. In measles surveillance, once a suspected index case is identified in a community cluster, contact tracing and screening of neighboring households helps find more possible measles cases quickly. While cluster methods are also used for surveys or other conditions, it is classically described in measles surveillance.

96. (c) Weight for height

Acute malnutrition (wasting) is best reflected by weight-for-height, comparing a child's weight to what is expected for that height. A low weight-for-height indicates recent or ongoing weight loss. Height-for-age (stunting)

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Primary prevention aims to prevent the onset of a disease by controlling or eliminating causative factors. Here, promptly treating group A streptococcal pharyngitis (sore throat) with penicillin prevents the first occurrence of rheumatic fever, thereby averting rheumatic heart disease. Primordial prevention targets risk factors at the societal/environmental level (e.g., living conditions). Secondary prevention is about early detection and treatment of an established disease, and tertiary focuses on rehabilitation and reducing complications of existing disease.

114. (b) Paris Green

Paris Green (copper acetoarsenite) is a classic larvicide that acts as a stomach poison when ingested by mosquito larvae. DDT typically has contact toxicity, pyrethrum is a natural pyrethroid with contact and knockdown effects, and "anti larva oil" works by forming a film on water surfaces, suffocating larvae. Paris Green has historically been used in malaria control programs to kill anopheline larvae in water bodies.

115. (b) Systematic random sampling

Systematic sampling involves selecting subjects at a predetermined interval (the sampling interval) from a randomly chosen starting point on a list or in a sequence. For example, if every fifth house is chosen after a random start, that is classical systematic sampling. In simple random sampling, each unit has an equal chance without a fixed interval. Stratified sampling divides the population into strata, then samples within each. Convenience sampling is non-probability-based, taking whichever subjects are easiest to access.

116. (b) Limitation of activity

Disability indicators are commonly divided into event-type and person-type measures. Event-type indicators focus on time lost, such as "days of restricted activity," "bed-disability days," or "work-loss days." "Limitation of activity" is more a person-type (functional) measure, reflecting an ongoing or longer-term inability to perform normal tasks rather than an acute or discrete time-limited event. Hence, "limitation of activity" does not fit neatly as an event-type indicator.

117. (c) Give the infant second dose of DPT/OPV

Primary immunization against diphtheria, pertussis, tetanus, and polio requires a series of doses at recommended intervals. If the child has only received the first doses and returns at 9 months (with no other doses given in between), you continue the schedule rather than restart or jump to booster. The correct step is to administer the second DPT and OPV doses, then subsequently complete the series. Boosters come after completion of the primary series plus a suitable time interval.

118. (a) Rifampicin 450 mg once a month (under supervision) + Dapsone 50 mg daily (self administered) + Clofazimine 150 mg once a month (under supervision) and 50 mg every alternate day

The WHO-recommended multibacillary (MB) leprosy regimen for children aged 10–14 years uses slightly lower drug dosages than adult regimens but still includes the three key anti-leprosy drugs (rifampicin, dapsone, clofazimine). Option (a) correctly provides the standard monthly supervised doses and daily (or alternate-day) self-administered doses in appropriate pediatric amounts. The higher doses (600 mg rifampicin, 100 mg dapsone) are more typical for adults.

119. (a) Type I error

A Type I error (false positive) occurs when a study concludes there is a statistically significant difference between groups even though no true difference exists in reality. The p-value (<0.05) suggested a real effect, but it turned out to be a spurious or chance finding. By contrast, a Type II error (false negative) happens if we fail to detect a real difference when one truly exists.

120. (b) $\frac{\text{Number of houses positive for Aedes aegypti breeding}}{\text{Total number of houses}} \times 100$

The classical House Index for Aedes aegypti is defined as the percentage of houses (or premises) infested with larvae and/or pupae of Aedes aegypti. It is often employed at ports and airports to gauge the risk of dengue or

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QUESTION PAPER 2011

1. Tidy wounds inflicted by sharp instruments and containing no devitalised tissues are expected to heal by
   (a) Secondary healing
   (b) Primary healing
   (c) Formation of contracture
   (d) Skin grafting

2. The following statements regarding small bowel tuberculosis are correct except
   (a) There are two types : ulcerative and hyperplasic
   (b) The strictures are common in the ulcerative type
   (c) In the ulcerative type, the bowel serosa is studded with tubercles
   (d) The ulcerative type occurs when the virulence of the organism is greater than the host defence

3. Systemic Inflammatory Response Syndrome (SIRS) is characterised by the following except
   (a) Release of lipopolysaccharide endotoxins from the walls of dying gram-negative bacilli
   (b) Tachycardia with a heart rate of more than 90/min
   (c) White cell count < $5000/mm^3$
   (d) Tachypnoea with a respiratory rate of 20/min

4. The most common site for a parathyroid adenoma is
   (a) Intra-thyroid
   (b) In the superior parathyroid lobe
   (c) In the inferior parathyroid lobe
   (d) Mediastinal

5. The sonographic finding of a cyst containing clear fluid is described as
   (a) Anechoic
   (b) Hypoechoic
   (c) Isoechoic
   (d) Hyperechoic

6. The histological grade best correlates with the prognosis in which one of the following malignancies?
   (a) Prostate cancer
   (b) Melanoma
   (c) Colonic adenocarcinoma
   (d) Soft tissue sarcoma

7. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Name of the perforators)		**List II (Site of perforators)**
A	Boyd's	1	5 cm above the calcaneus
B	Dodd's	2	Mid thigh
C	Cockett's	3	Below the knee
D	Bassi's	4	Above the ankle

   Code :
   (a) A-1 B-3 C-2 D-4
   (b) A-1 B-4 C-2 D-3
   (c) A-3 B-2 C-4 D-1
   (d) A-3 B-1 C-2 D-4

8. When a patient suffers from critical limb ischemia, the ankle-brachial pressure index (ABPI) is less than
   (a) 1·0
   (b) 0·9
   (c) 0·7
   (d) 0·3

9. Which of the following most strongly suggests the diagnosis of primary hyperparathyroidism ?
   (a) Serum acid phosphatase above 120 IU/L
   (b) Serum calcium above 11 mg/dL
   (c) Urinary calcium below 100 mg/day
   (d) Serum alkaline phosphatase above 120

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yellow fever vector presence. The container index (option (c)) is also used but is calculated differently. Hence, (b) is the correct formula for the Aedes aegypti House Index in these settings.

END

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IU/L

10. A patient has a 6-cm breast tumour with mobile, clinically positive, ipsilateral axillary lymph nodes and no evidence of distant metastasis. The stage of the breast cancer is
(a) Stage I
(b) Stage II b
(c) Stage III a
(d) Stage III b

11. A young patient presented in the emergency with haematemesis and was found to have massive splenomegaly. The following conditions are associated with the above clinical presentation except
(a) Malaria
(b) Kala-azar
(c) Portal hypertension
(d) Idiopathic thrombocytopenic purpura

12. The following are the common features of Idiopathic Thrombocytopenic Purpura except
(a) Epistaxis
(b) Cutaneous ecchymoses
(c) Massive splenomegaly
(d) Thrombocytopenia

13. Among the following, which is the investigation of choice for evaluation of common bile duct (CBD) ?
(a) CECT Abdomen
(b) MRCP
(c) HIDA scan
(d) Ultrasonography

14. The removal of malarial parasites from the red blood cells by spleen is called
(a) Pitting
(b) Culling
(c) Binding
(d) Phagocytosis

15. The prognostic indicators in a case of portal hypertension include
1. Serum globulin
2. Serum albumin
3. Serum bilirubin
4. Ascites
Select the correct answer using the code given below:
(a) 1, 2 and 3
(b) 1 and 4 only
(c) 2, 3 and 4
(d) 3 and 4 only

16. The following constitute the Saint's triad except
(a) Gall stones
(b) Jaundice
(c) Hiatus hernia
(d) Colonic diverticulosis

17. A 40-year old alcoholic male complains of acute pain in the epigastrium associated with vomiting for the last 10 days. On clinical examination, he is found to have a mass in the epigastrium. The most likely diagnosis is
(a) Perforated peptic ulcer with sub-hepatic abscess
(b) Pseudopancreatic cyst
(c) Carcinoma of head of the pancreas
(d) Hepatoma in left lobe of liver

18. In acute pancreatitis, surgery is indicated in which one of the following conditions ?
(a) Acute fluid collection
(b) Acute pseudocyst
(c) Sterile pancreatic necrosis
(d) Infected pancreatic necrosis

19. The most common site of skeletal metastases in carcinoma of the breast is
(a) Pelvis
(b) Skull
(c) Lumbar vertebrae
(d) Thoracic vertebrae

20. The inability to flex the index finger is a sign of
(a) Ulnar nerve injury
(b) Radial nerve injury
(c) Median nerve injury
(d) Dupuytren's contracture

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21. Consider the following findings with reference to a diagnostic peritoneal lavage (DPL) in a case of abdominal trauma :
1. 10 ml of gross blood on aspiration
2. W.B.C. count more than 500/cu mm
3. Amylase level more than 175 IU/dL
4. R.B.C. count more than 100,000/ cu mm

The criteria for a positive DPL are :
(a) 1 and 2 only
(b) 3 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

22. Following radical surgery for the carcinoma of breast, reconstruction of the breast can be performed by using the following procedures except
(a) Silicon implants
(b) Latissimus dorsi flap (LD flap)
(c) Transversus abdominis muscle flap (TRAM flap)
(d) Deltopectoral flap

23. A Wolfe graft is a
(a) Partial thickness skin graft
(b) Pinch skin graft
(c) Small full thickness skin graft
(d) Pedicle graft

24. The following hallmarks characterise Diaphyseal aclasis except
(a) Pseudarthrosis is common
(b) Genu valgum can be found
(c) Chondrosarcoma may occur in less than 1% cases
(d) It is inherited as an autosomal dominant dysplasia

25. The most common complication of Colles' fracture is
(a) Malunion
(b) Delayed union
(c) Non-union
(d) Sudeck's osteodystrophy

26. The indications for surgery in patients with pulmonary tuberculosis include all of the following except
(a) Severe life-threatening haemoptysis
(b) Drug-resistant chronic tuberculous abscess
(c) Aspergilloma within a tuberculous cavity with recurrent haemoptysis
(d) AFB positive sputum with normal chest CT scan

27. Inhaled foreign bodies are more likely to get lodged in the right main bronchus because
(a) Left main bronchus is wider and shorter
(b) Left main bronchus is narrow and wide
(c) Right main bronchus is shorter, wider and nearly vertical
(d) Right main bronchus is shorter, narrower and lies horizontally in relation to trachea

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28. In a patient with stage I (confined to mucosa and submucosa) transitional cell carcinoma of the urinary bladder, the recommended treatment is
(a) Trans urethral resection of bladder tumour (TURBT)
(b) Radical cystectomy
(c) Radiation therapy
(d) Systemic chemotherapy

29. In patients with systemic hypertension, the characteristic haemorrhage seen on ophthalmoscopy is
(a) Dot haemorrhage
(b) Subchoroidal haemorrhage
(c) Flame-shaped haemorrhage
(d) Wet sponge haemorrhage

30. Spring catarrh is a type of conjunctivitis caused by
(a) Bacterial infection
(b) Exogenous allergen
(c) Virus infection
(d) Endogenous toxins

31. A localized nodule of squamous cell carcinoma in the vocal cord is best treated by
(a) Cryosurgery

(b) Surgical excision
(c) Radiotherapy
(d) Laser therapy

32. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Observed associations)		**List II (Syndromes)**
A	Turcot syndrome	1	Café-au-lait spots
B	Neurofibromatosis II	2	Desmoid tumours
C	Neurofibromatosis I	3	Bilateral schwannomas
D	Gardner syndrome	4	CNS tumours

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-4 B-3 C-2 D-1

33. In a head injury victim, which of the following is the most common initial manifestation of an increasing intra-cranial pressure ?
(a) Change in the consciousness level
(b) Ipsilateral pupillary dilatation
(c) Contralateral pupillary dilatation
(d) Hemiparesis

34. Stored blood which has been preserved in a blood bank is deficient in which of the following coagulation factors ?
(a) II only
(b) II and VII
(c) V and VIII
(d) IX and X

35. Consider the following statements in respect of congenital hypertrophic pyloric stenosis :
1. The condition is more common in males.
2. The investigation of choice is ultrasonography.
3. Hypertrophy is maximal in the prepyloric region.
4. The condition presents within the first week of birth.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 2, 3 and 4 only
(c) 1 and 3 only
(d) 1, 2 and 4 only

36. The complications of prolonged parenteral hyperalimentation may include the following except
(a) Cholestatic jaundice
(b) Hyperphosphataemia
(c) Hyperosmolar acidosis
(d) Hyperammonaemia

37. The following statements regarding Meckel's diverticulum in adults are true except
(a) It is a remnant of omphalomesenteric duct
(b) It usually presents on the anti-mesenteric border of small intestine
(c) Bleeding is a common complication
(d) It should be removed if detected incidentally during an abdominal exploration

38. Consider the following statements :
Branchial cysts :
1. are associated with tracks passing between the carotid bifurcation.
2. usually present in early adulthood.
3. occur along the lower one-third of the anteromedial border of the sternocleidomastoid muscle.
4. develop from the vestigial remnants of the fourth branchial cleft.

Which of the statements given above are correct?
(a) 2, 3 and 4 only
(b) 1, 3 and 4 only
(c) 1, 2, 3 and 4
(d) 1, 2 and 3 only

39. Regarding laparoscopic cholecystectomy, which of the following statements is correct ?
(a) It is primarily done for cholecystitis in the third trimester of pregnancy
(b) It is associated with higher rate of bile duct injuries than open cholecystectomy
(c) It is contraindicated in acute cholecystitis
(d) It is safer than open cholecystectomy in patients with cardiorespiratory disease

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60. Foetal anaemia can be detected non-invasively by Doppler ultrasonography on the basis of an increase in the
(a) Peak systolic velocity of the anterior cerebral artery
(b) SD ratio in the anterior cerebral artery
(c) Peak systolic velocity of the middle cerebral artery
(d) SD ratio in the umbilical artery

61. As per the Government of India guidelines, the daily dose of elemental iron recommended for prophylaxis during pregnancy is
(a) 50 mg/day for 100 days
(b) 100 mg/day for 100 days
(c) 150 mg/day for 100 days
(d) 200 mg/day for 100 days

62. A pregnant mother is referred with a prolonged second stage of labour. On examination, the foetal heart sound is 120/min, and the head is at –1 station with severe moulding. What will be the most appropriate management?
(a) Apply obstetric forceps and deliver
(b) Apply ventouse and deliver
(c) Perform LSCS
(d) Start pitocin drip

63. A multiparous patient presents with 36 weeks of pregnancy in labour. On examination, the cervix is fully dilated. The foetal heart rate is 170/min, and the head is at +2 station. What will be the most appropriate management?
(a) Wait for the normal delivery
(b) Apply ventouse and deliver
(c) Apply forceps and deliver
(d) Perform LSCS

64. The most common cause of secondary postpartum haemorrhage is
(a) Intrauterine infection
(b) Subinvolution of uterus
(c) Oestrogen therapy administered to inhibit lactation
(d) Retained fragments of placenta or membranes

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65. The respective hormones responsible for the breast milk secretion and ejection are (in that order)
(a) Oxytocin and Prolactin
(b) Prolactin and Oxytocin
(c) Oestrogen and Prolactin
(d) Prolactin and Oestrogen

66. A 37-week small-for-date neonate is not likely to develop
(a) Hypocalcaemia
(b) Hypoglycaemia
(c) Hypothermia
(d) Hyaline membrane disease

67. Which of the following haematological parameters does not undergo a physiological increase during normal pregnancy?
(a) Blood volume
(b) Red cell volume
(c) Leukocyte count
(d) Platelet count

68. A 40-year-old woman presents with excessive menstrual bleeding. The most appropriate first surgical treatment will be
(a) Hysteroscopy
(b) Myomectomy
(c) Dilatation and curettage
(d) Hysterectomy

69. A 15-year-old unmarried girl presents with complaints of dysmenorrhoea for the last about one year. She achieved menarche at 12 years of age. On abdominal and rectal examination, she has no abnormality. What will be the most appropriate management ?
(a) Prescribe antibiotics
(b) Prescribe clotrimazole vaginal ovules
(c) Reassure her and prescribe analgesics
(d) Perform dilatation and curettage

70. Asherman's syndrome typically results from
(a) Excessive curettage during dilatation and curettage
(b) Post-partum haemorrhage
(c) Prolonged usage of oral contraceptives

50. During a routine prenatal visit, a 22-week gravid woman is found to be affected with ankle oedema and new onset hypertension. The urine analysis reveals marked proteinuria. Which of the following, if it were to occur, would substantiate the diagnosis of eclampsia?
(a) Molar pregnancy
(b) Hyperuricaemia
(c) Seizures
(d) Thrombocytopenia

51. The umbilical cord contains
(a) Two arteries and one vein
(b) Two veins and one artery
(c) Two arteries and two veins
(d) One artery and one vein

52. In a gravid woman with placenta praevia, the following foetal complications are known to increase
1. Congenital malformations
2. Intrauterine growth retardation
3. Prematurity
Select the correct answer from the code given below:
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1 and 3 only

53. A pregnant woman with 16 weeks gestation is diagnosed to have an ovarian cyst of 11 cm diameter. The best timing for the removal of the ovarian cyst is
(a) Immediately
(b) At the time of caesarean section
(c) Immediately after delivery
(d) Three months after delivery

54. The maternal serum alpha-fetoprotein concentration is elevated in the following conditions except
(a) Multiple gestation
(b) Foetal neural tube defect
(c) Foetal osteogenesis imperfecta
(d) Gestational trophoblastic disease

55. In the quadruple test conducted as a part of second trimester screening for Down's syndrome, the fourth marker which has been added to the triple test is
(a) PAPP-A
(b) Inhibin-A
(c) Human Placental Lactogen (HPL)
(d) Acetylcholinesterase

56. A fourth-gravida with three living children presents at 38 weeks of pregnancy with abdominal pain and vaginal bleeding. On examination, the uterus is tense and tender, and the foetal heart sounds are absent. What is the probable diagnosis?
(a) Accidental haemorrhage
(b) Placenta praevia
(c) Vasa praevia
(d) Ectopic pregnancy

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57. A double bubble sign on an antenatal ultrasound examination in a gravid woman is diagnostic of
(a) Anencephaly
(b) Hydronephrosis
(c) Duodenal atresia
(d) Meningomyelocele

58. A 25-year-old woman with a history of three consecutive abortions has been investigated thoroughly to determine the cause of recurrent pregnancy loss. In the absence of a demonstrable cause, what is the chance of a viable birth in subsequent pregnancy?
(a) Less than 20%
(b) 20–30%
(c) 40%
(d) 60%

59. In a woman with molar pregnancy with a uterus size of 28 weeks, the treatment of choice is
(a) Medical induction with prostaglandins
(b) Hysterotomy
(c) Hysterectomy
(d) Suction evacuation

81. The genetic inheritance of Haemophilia is
(a) Sex-linked dominant
(b) Sex-linked recessive
(c) Autosomal dominant
(d) Autosomal recessive

82. The causative organism of Chancroid is
(a) Haemophilus ducreyi
(b) Donovania granulomatis
(c) Chlamydia trachomatis
(d) Psittacosis lymphogranuloma group

83. Hormonal contraceptives are contraindicated in women
(a) less than 25 years of age
(b) who are normotensive
(c) who have thromboembolic disorders
(d) who have anaemia

84. Herd immunity is not seen in
(a) Poliomyelitis
(b) Measles
(c) Diphtheria
(d) Tetanus

85. Which micronutrient supplement should be administered during an acute episode of diarrhoea ?
(a) Iron
(b) Copper
(c) Calcium
(d) Zinc

86. The use of condom for protection against sexually transmitted diseases qualifies as
(a) Primordial prevention
(b) Health promotion
(c) Specific protection
(d) Secondary prevention

87. Child survival index is the percentage of children surviving till the age of
(a) 1 year
(b) 3 years
(c) 5 years
(d) 15 years

88. The chemoprophylaxis in malaria is an example of
(a) Primary prevention
(b) Secondary prevention
(c) Primordial prevention
(d) Tertiary prevention

89. The risk of a disease is measured by the
(a) Prevalence Rate
(b) Incidence Rate
(c) Case Fatality Rate
(d) Communicability Rate

90. The Relative Risk of 0·25 indicates
(a) 75% reduction in the incidence rate in the exposed individuals compared with the unexposed
(b) 25% increase in the incidence rate in the exposed individuals compared with the unexposed
(c) 2·5% times higher risk in the exposed individuals compared with the unexposed
(d) 75% risk increase in the exposed individuals compared with the unexposed

91. Which of the following constitutes Secondary Prevention?
(a) Health Education Programme
(b) Wearing Safety Helmets
(c) Using Limb Callipers
(d) Screening Tests

92. The installation and usage of sanitary latrines by general public constitutes which level of prevention ?
(a) Health promotion
(b) Specific protection
(c) Early diagnosis and treatment
(d) Disability limitation and rehabilitation

93. Sampling error occurs due to the variation in results
(a) between one sample and another
(b) between the observations of two individuals
(c) due to the use of many instruments in the

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(d) Use of intrauterine contraceptive device

71. A 30-year-old woman with three children has dysfunctional uterine bleeding. What will be the most appropriate management ?
(a) Abdominal hysterectomy
(b) Medical management with danazol
(c) Transcervical endometrial resection
(d) Levonorgestrel-releasing intrauterine device

72. The following hormonal changes mark the Polycystic Ovarian Disease except
(a) Hyperinsulinaemia
(b) Hyperandrogenism
(c) Raised LH, Raised FSH
(d) Raised LH, Low-to-normal FSH

73. A 13-year-old, obese, unmarried girl presents with the history of amenorrhea and cyclical abdominal pain. On examination, the secondary sex characters are found to be well developed. What should be the next step ?
(a) Carry out the progesterone challenge test
(b) Assess the TSH and Prolactin levels
(c) Carry out a per-rectal examination
(d) Keep her under observation for the next three months

74. A woman who has secondary amenorrhea experiences withdrawal bleeding following progesterone administration. What is the likely diagnosis?
(a) Anovulation
(b) Premature ovarian failure
(c) Hypothalamic amenorrhea
(d) Asherman's syndrome

75. A woman of child-bearing age develops a second-degree uterine prolapse with supravaginal elongation of the cervix. What will be the most appropriate management ?
(a) Amputation of the cervix
(b) Fothergill's operation
(c) Vaginal hysterectomy and pelvic floor repair
(d) Sling operation

76. The diagnostic criteria for bacterial vaginosis include the following except
(a) Vaginal pH < 4.5
(b) Homogenous vaginal discharge
(c) Presence of clue cells
(d) Positive whiff test

77. The absence of fructose in the seminal fluid indicates a defect of
(a) Testicular tubular epithelium
(b) Seminal vesicles
(c) Leydig cells
(d) Hypothalamic-pituitary axis

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78. A woman, who is in the reproductively active age group, presents with a history of greenish and frothy vaginal discharge. On per speculum examination, she has multiple punctuate strawberry-like spots. What is the likely diagnosis?
(a) Candidiasis
(b) Trichomoniasis
(c) Gonococcal vaginitis
(d) Chlamydia infection

79. A 60-year-old woman presents with postmenopausal bleeding per vaginum. Both per vaginum and per speculum examination reveal no abnormality, and the Pap smear is normal. What will be the most appropriate management?
(a) Keep her under observation
(b) Administer haemostatics
(c) Measure endometrial thickness with ultrasound
(d) Hysterectomy

80. The following are the branches of the anterior division of internal iliac artery except
(a) Superior rectal artery
(b) Middle rectal artery
(c) Inferior vesical artery
(d) Uterine artery

40. The Subclavian steal syndrome occurs due to
(a) Occlusion/stenosis of the vertebral artery
(b) Occlusion/stenosis of the carotid artery
(c) Occlusion of the subclavian artery proximal to origin of vertebral artery
(d) Occlusion of the subclavian artery distal to origin of vertebral artery

41. Which of the following hormones is the best indicator of maternal-foetal-placental unit ?
(a) Prolactin
(b) Human placental lactogen
(c) Progesterone
(d) Estriol

42. During a normal pregnancy, the changes occurring in the urinary tract include the following except
(a) Increase in the Glomerular filtration rate
(b) Dilatation of the ureters
(c) Elevation and thickening of the trigone
(d) Hypertonicity of the ureteric smooth muscle

43. The daily requirement of calcium during normal pregnancy is
(a) 250 mg
(b) 500 mg
(c) 1000 mg
(d) 2000 mg

44. A 35-year-old woman who has completed her family shows a positive Pap smear (Cervical intraepithelial neoplasia III (CIN III)). What is to be done next?
(a) Simple hysterectomy
(b) Wertheim's hysterectomy
(c) Conisation
(d) Cryotherapy

45. While making a pelvic assessment in a gravid woman at term, the obstetrician can measure with the examining finger the following diameter
(a) Diagonal conjugate
(b) True conjugate
(c) Diameter of pelvic inlet
(d) Obstetric conjugate

46. The perinatal complications of a diabetic pregnancy include:
1. Small for Gestational Age baby
2. Stillbirth
3. Hypoglycaemia
4. Respiratory distress syndrome

Select the correct answer from the code given below:
(a) 1 and 4 only
(b) 1 and 2 only
(c) 1, 2 and 3 only
(d) 2, 3 and 4 only

47. Antimicrobial prophylaxis is essential for a woman in labour who has
(a) Hypertension
(b) Renal disease
(c) Diabetes mellitus
(d) Heart disease

48. A nulliparous woman presents with acute lower abdominal pain. She has a history of missed periods. The ultrasound examination shows an empty uterus. The cervical movements are very tender. The vital signs are stable. How will you manage her?
(a) Treat her as a case of Pelvic Inflammatory Disease
(b) Perform a laparotomy
(c) Admit her for observation
(d) Perform a laparoscopy

49. In a pregnancy complicated by heart disease, which of the following is/are contraindicated?
1. External cephalic version
2. LSCS
3. Corrective surgery of the heart lesion
4. Prophylactic intravenous methergine at the birth of anterior shoulder

Select the correct answer from the code given below:
(a) 1 only
(b) 1 and 3 only
(c) 4 only
(d) 1, 2, 3 and 4

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study
(d) due to the multiple readings taken on the same instrument

94. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Chemical Contaminant)		List II (Harmful effect)
A	Lead	1	Wrist drop
B	Coal Tar	2	Leukaemia
C	Aniline dye	3	Lung cancer
D	Benzol	4	Bladder cancer

Code :
(a) A-1 B-3 C-4 D-2
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-4 C-2 D-1

95. Which one of the following indicators does not include the value of a person's height in its formula?
(a) Quetelet's index
(b) Ponderal index
(c) Lorentz's formula
(d) Corpulence index

96. Which of the following insecticides is a natural contact poison ?
(a) Lindane
(b) Carbaryl
(c) Rotenone
(d) Propoxur

97. In measles, when do the Koplik's spots appear ?
(a) On the day that fever occurs
(b) On the day that rashes appear
(c) 1–2 days before the rashes appear
(d) 1–2 days before the fever occurs

98. Which of the following is covered under spiritual dimension of health ?
(a) Balance of rationality and emotionality
(b) Meaning and purpose of life
(c) Quality of interpersonal ties
(d) Harmony within individual

99. The ratio between incidences among exposed and non-exposed persons is called
(a) Attributable risk
(b) Positive predictive value
(c) Relative risk
(d) Odds ratio

100. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Disease)		List II (Active food toxicant)
A	Lathyrism	1	Aspergillus flavus
B	Epidemic dropsy	2	Beta oxalyl amino alanine (BOAA)
C	Aflatoxicosis	3	Pyrrolizidine alkaloids
D	Endemic ascites	4	Sanguinarine

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-2 B-4 C-1 D-3

101. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Disease)		List II (Common Vectors)
A	Japanese encephalitis	1	Reduviid bug
B	Kala-azar	2	Tsetse fly
C	Sleeping sickness	3	Phlebotomus argentipes
D	Chagas disease	4	Culex mosquitoes

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-3 C-2 D-1
(d) A-3 B-4 C-2 D-1

102. A new drug is to be evaluated for its therapeutic effect. The best study design will be
(a) Cross sectional survey
(b) Case control design
(c) Natural experiment

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PAPER 2011 ANSWERS

1. (b) Primary healing

"Tidy" wounds caused by sharp instruments, with minimal tissue trauma and no devitalized edges, are well suited to "healing by primary intention." In this scenario, wound edges can be approximated easily, minimizing the gap through which new tissue must form. This contrasts with secondary healing, in which wounds close by granulation and contraction, resulting in more scarring. Primary healing is quicker, has less scarring, and fewer complications.

2. (b) The strictures are common in the ulcerative type

Small bowel tuberculosis is broadly categorized into the ulcerative and hyperplastic (or fibro-stenotic) types. Ulcerative lesions predominantly involve multiple superficial ulcers, whereas hyperplastic lesions produce a mass-like thickening with a tendency to form strictures. Hence, strictures are more characteristic of the hyperplastic variant rather than the ulcerative form. The other statements correctly describe features of intestinal tuberculosis, including the presence of tubercles on the serosa and the link between ulcerative disease and higher virulence.

3. (a) Release of lipopolysaccharide endotoxins from the walls of dying gram-negative bacilli

SIRS is defined by clinical signs (e.g., elevated or reduced temperature, heart rate >90/min, respiratory rate >20/min, and abnormal white blood cell counts), regardless of the specific cause. It can be triggered by infection, trauma, or other insults but is not exclusively tied to gram-negative bacterial endotoxins. While endotoxin release leads to septic shock and sepsis, SIRS itself can occur from many pathophysiological stimuli. Tachycardia, tachypnea, and abnormal WBC counts are indeed part of SIRS criteria.

4. (c) In the inferior parathyroid lobe

Parathyroid adenomas occur most frequently in the inferior glands, which originate from the third pharyngeal pouch and have a more variable descent during embryological development. This variability places the inferior glands at higher risk for adenoma formation and ectopic locations. By contrast, the superior parathyroid glands (derived from the fourth pouch) are more consistently positioned and somewhat less likely to harbor adenomas. Intra-thyroid and mediastinal locations can occur but are relatively uncommon compared to inferior gland involvement.

5. (a) Anechoic

On ultrasound, a simple cyst containing clear fluid does not reflect or attenuate ultrasound waves significantly and thus appears dark or "anechoic." This appearance contrasts with hypoechoic lesions (which appear less bright than surrounding tissues), isoechoic lesions (appearing similar in echogenicity to surrounding tissues), and hyperechoic lesions (brighter due to higher reflectivity). The anechoic appearance, along with a well-defined thin wall and posterior acoustic enhancement, is characteristic of uncomplicated fluid-filled cysts such as simple renal or hepatic cysts.

6. (d) Soft tissue sarcoma

For soft tissue sarcomas, histologic grading (based on cellular differentiation, mitotic count, and necrosis) is a critical predictor of clinical outcome. High-grade sarcomas behave aggressively and have higher metastatic potential, whereas low-grade lesions are less aggressive. In other malignancies (e.g., prostate cancer), grading systems like the Gleason score are also important, but stage and other markers often supersede purely histologic grading. In melanoma, tumor thickness (Breslow depth) and ulceration are more crucial, and in colonic adenocarcinoma, stage outweighs grade.

7. (c) A-3 B-2 C-4 D-1

Boyd's perforators are located just below the knee, connecting the great saphenous vein

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(b) Arsenic poisoning
(c) Asbestosis
(d) Silicosis

112. Which one of the following is the correct sequence of appearance for the Hepatitis B virus serological markers ?
(a) Anti-HBe, HBsAg, Anti-HBc, HBeAg
(b) HBsAg, HBeAg, Anti-HBc, Anti-HBe
(c) Anti-HBc, HBsAg, Anti-HBe, HBeAg
(d) HBeAg, Anti-HBe, Anti-HBc, HBsAg

113. Which of the following will qualify as a Class III exposure to Rabies ?
(a) Licks on intact skin by a dog
(b) Bites by wild animals
(c) Bites on legs by a dog
(d) Drinking unboiled milk of a suspect animal

114. Which of the following is not associated with Acute Food Poisoning ?
(a) Onset with vomiting
(b) Tenesmus
(c) Leucocytosis
(d) High skin surface temperature

115. Consider the following:
1. Magnesium Sulphate
2. Calcium bicarbonate
3. Calcium Sulphate
4. Magnesium bicarbonate

Hardness of water relates to the presence of which of the above?
(a) 1 and 4 only
(b) 1, 2 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

116. The contraindications for Progestasert include the following except
(a) Pelvic Inflammatory Disease
(b) Uterine fibroids
(c) Previous history of ectopic pregnancy
(d) Previous history of abortion

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117. Which of the following is a third generation intrauterine device ?
(a) Cu-7
(b) TCu-200
(c) TCu-380A
(d) Progestasert

118. In which of the following diseases is post-exposure immunisation prescribed ?
(a) Cholera
(b) Poliomyelitis
(c) Rabies
(d) Yellow fever

119. Kyasanur Forest Disease (KFD) is transmitted by
(a) Anopheles mosquitoes
(b) Sand fly
(c) Hard ticks
(d) Mites

120. Which one of the following statements about Human Immunoglobulins is not correct?
(a) IgG comprises about 85% of the total serum immunoglobulins
(b) IgG and IgM can both cross the placenta
(c) The half life of IgM is about 10 days
(d) IgA comprises 15% of the total serum immunoglobulins and is mainly found in the body secretions

END

(d) Randomized controlled trial

103. Consider the following criteria for a screening test:
1. Disease should have a latent period
2. Condition (disease) should be rare
3. Disease should be amenable to treatment

Which of the above must be satisfied before including a screening test into any programme?
(a) 1 only
(b) 1 and 2
(c) 2 only
(d) 1 and 3

104. Risk ratio is utilised to calculate the
(a) Relative risk
(b) Attributable risk
(c) Population attributable risk
(d) Odds ratio

105. Consider the following characteristics of biological agents :
1. Infectivity
2. Pathogenicity
3. Virulence
4. Communicability

Among the above characteristics, which are used to measure the ability of biological agents to induce clinically apparent illness ?
(a) 1 and 2
(b) 2 only
(c) 3 only
(d) 2 and 3

106. The Framingham Heart Study is an example of
(a) Case control study
(b) Cohort study
(c) Randomised Controlled Trial
(d) Cross sectional study

107. Mid-year population is not the denominator of which mortality rate ?
(a) Crude death rate
(b) Age specific death rate
(c) Weekly death rate
(d) Proportional mortality rate

108. The best indicator for the measurement of completed family size, that is the number of children a woman would have through her reproductive years is
(a) General fertility rate
(b) Total fertility rate
(c) Gross reproduction rate
(d) Net reproduction rate

109. Under the DOTS strategy of Revised National Tuberculosis Programme, the recommended line of management in Category I patients, if the sputum is positive after 2 months of Intensive Phase treatment with 4 drugs, is to
(a) Start the continuation phase of treatment with INH and Rifampicin
(b) Continue the Intensive Phase of treatment with 4 drugs for 1 more month only, regardless of sputum positivity after that
(c) Continue the Intensive Phase of treatment with 4 drugs until the sputum becomes negative
(d) Add one more drug, that is, to use 5 drugs until the sputum becomes negative

110. A 15-month-old child presents with fever and cough since the last two days, the respiratory rate is 55/min and there is no in-drawing of the chest. According to the National Programme for Acute Respiratory Infections, the line of management should be
(a) Immediate referral of the child to hospital for urgent admission
(b) Referral of the child to hospital for admission, after administration of first dose of antibiotic
(c) Administration of antibiotic at home along with treatment for fever, advising the mother to return for reassessment after two days
(d) Administration of treatment for fever at home, advising the mother to return after two days for assessment of the need for an antibiotic

111. Basophilic stippling of the RBCs is a sensitive index of
(a) Lead poisoning

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to deeper veins. Dodd's perforators lie in the thigh region, specifically around the adductor canal. Cockett's perforators (also called ankle perforators) are found near or slightly above the medial malleolus ("above the ankle"). Bassi's perforators lie even lower—about 5 cm above the calcaneus—toward the posterior aspect of the leg. Correct pairing of names and locations is essential for diagnosing and treating venous insufficiency.

8. (d) 0·3

The ankle-brachial pressure index (ABPI) is a quick, noninvasive measure comparing ankle and brachial systolic pressures. Normal ABPI values range around 1.0–1.2. Values below 0.9 usually indicate peripheral arterial disease. However, critical limb ischemia, in which there is a severe reduction in blood flow threatening limb viability, generally presents when ABPI falls below about 0.3–0.4. At these very low levels, rest pain and tissue loss (ulcers or gangrene) become likely, requiring urgent intervention to restore adequate perfusion.

9. (b) Serum calcium above 11 mg/dL

Primary hyperparathyroidism is classically associated with elevated parathyroid hormone (PTH) levels leading to hypercalcemia. A serum calcium level above 11 mg/dL (normal is about 8.5–10.5 mg/dL) in the appropriate clinical context is highly suggestive. Elevated serum acid phosphatase is more indicative of prostate pathology, while elevated alkaline phosphatase can arise in bone or hepatic disorders. Low urinary calcium would be atypical, since hyperparathyroidism usually increases calcium excretion. Hypercalcemia remains the hallmark biochemical clue to this diagnosis.

10. (c) Stage III a

Breast cancer staging uses tumor size (T), nodal status (N), and metastasis (M). A 6-cm tumor is T3 (more than 5 cm). Mobile ipsilateral axillary nodes typically indicate N1 disease (or possibly N2 if multiple but still clinically mobile). With no distant metastases, M0 applies. T3N1M0 is classified as Stage IIIA. In contrast, Stage II involves smaller tumors (T2 or T3 but with fewer nodal involvements), and Stage IIIB often includes direct extension to the chest wall or inflammatory changes.

11. (d) Idiopathic thrombocytopenic purpura

Massive splenomegaly with upper gastrointestinal bleeding (hematemesis) is commonly linked to conditions causing portal congestion (e.g., portal hypertension), parasitic infections such as malaria, or visceral infections like kala-azar (leishmaniasis), all of which can enlarge the spleen significantly. Idiopathic thrombocytopenic purpura (ITP) causes platelet destruction primarily in the spleen but typically does not produce a "massive" splenomegaly. Thus, ITP is the least likely among these choices to present with both massive splenomegaly and acute hematemesis.

12. (c) Massive splenomegaly

ITP is characterized by autoantibody-mediated platelet destruction, leading to thrombocytopenia and mucocutaneous bleeding manifestations such as epistaxis and ecchymoses. Although the spleen is the site of platelet destruction, massive splenomegaly is not typical of ITP. When splenomegaly does occur, it is generally mild. Therefore, significant or massive enlargement of the spleen should prompt consideration of other hematological or portal etiologies. The hallmark triad for ITP is low platelet count (thrombocytopenia), normal RBC/WBC counts, and a relatively normal-sized spleen.

13. (b) MRCP

Magnetic Resonance Cholangiopancreatography (MRCP) offers a highly detailed, noninvasive image of the biliary tree and pancreatic duct. It surpasses ultrasound in providing precise anatomical delineation of the common bile duct and can identify obstructions or stones accurately. Although ultrasonography is often used initially to detect biliary dilatation or stones, MRCP is more definitive for ductal anatomy. CECT abdomen gives overall structural detail but may miss fine biliary detail. HIDA scans are more functional, primarily evaluating gallbladder ejection or leaks.

14. (a) Pitting

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tissue forms, it can lead to reduced menstrual flow, infertility, or amenorrhea. Postpartum hemorrhage, OCP use, or IUCDs are not the usual causes. The hallmark cause remains endometrial trauma from curettage.

71. (d) Levonorgestrel-releasing intrauterine device

In modern management of dysfunctional uterine bleeding (DUB) in a relatively young woman, a levonorgestrel intrauterine device (LNG-IUS) is an effective, minimally invasive, first-line option. It provides local progestin effect, reduces endometrial proliferation, and can significantly decrease menstrual blood loss. While other interventions (e.g. medical therapy with danazol, endometrial resection, or hysterectomy) may be considered in persistent or refractory cases, the levonorgestrel IUCD often successfully controls DUB with fewer systemic side effects and preserves fertility.

72. (c) Raised LH, Raised FSH

Classic PCOS typically exhibits an elevated LH:FSH ratio (often >2:1), hyperinsulinism, and hyperandrogenism. FSH is usually normal or even slightly low, while LH is comparatively high. Both LH and FSH being "raised" together is not characteristic of PCOS and is the incorrect (i.e., "except") statement. Hyperinsulinemia and hyperandrogenemia remain key features that drive the pathophysiology and clinical manifestations of PCOS.

73. (c) Carry out a per-rectal examination

A 13-year-old with normal secondary sexual development but no menses and cyclical lower abdominal pain raises suspicion of an outflow tract obstruction (e.g., imperforate hymen or transverse vaginal septum). This is often accompanied by built-up blood (hematocolpos), causing monthly cyclical pain. While hormonal tests can be useful in other contexts, the immediate suspicion here is anatomical obstruction. Because she is unmarried and a standard pelvic exam may be difficult, a careful rectal (or transabdominal ultrasound, if available) evaluation is critical to confirm any obstructive anomaly.

74. (a) Anovulation

Withdrawal bleeding after a progesterone challenge indicates that the endometrium has been primed by endogenous oestrogen. This suggests that the ovaries are producing enough oestrogen and that the outflow tract is intact, but that the patient is not ovulating (hence no corpus luteum–derived progesterone). Premature ovarian failure would not supply sufficient oestrogen for build-up, Asherman's syndrome involves uterine scarring preventing proper endometrial development or shedding, and hypothalamic amenorrhea leads to low oestrogen states. Thus, anovulation is most consistent.

75. (b) Fothergill's operation

Fothergill's operation (also known as the Manchester procedure) is classically indicated for uterine prolapse, especially in cases of cervical elongation, in a woman desiring future fertility or preservation of the uterus. It involves cervical amputation plus plication of the cardinal ligaments. Vaginal hysterectomy and pelvic floor repair might be reserved for more severe uterovaginal prolapse or in women finished with childbearing who prefer definitive treatment. Sling operations are typically for advanced prolapse.

NODIA

76. (a) Vaginal pH < 4.5

Bacterial vaginosis is diagnosed (Amsel criteria) with a vaginal pH >4.5, homogenous thin discharge, presence of clue cells on microscopy, and a positive "whiff" test (a fishy odor with KOH). A pH less than 4.5 is more typical of normal lactobacilli-dominant flora or candidal infections. Thus "vaginal pH <4.5" is the "except" statement that does not match BV.

77. (b) Seminal vesicles

Fructose in semen is produced primarily by the seminal vesicles. If fructose is absent, it suggests either agenesis or dysfunction of the seminal vesicles or a blockage preventing their secretions from joining the ejaculate. Testicular tubular epithelium is involved in sperm production, Leydig cells produce testosterone, and the hypothalamic-pituitary axis regulates gonadotropin secretion, none of which specifically controls fructose secretion.

21. (d) 1, 2, 3 and 4

Diagnostic peritoneal lavage (DPL) helps detect intra-abdominal bleeding or organ injury. It is considered positive if there is immediate aspiration of ≥10 ml of gross blood or if subsequent fluid analysis shows RBC >100,000/μL, WBC >500/μL, elevated amylase (>175 IU/dL), or the presence of bile, bacteria, or fecal material. Each of the listed criteria—gross blood, high WBC count, high amylase, and high RBC count—indicates intra-abdominal pathology, making the DPL positive and prompting surgical or further interventional management.

22. (d) Deltopectoral flap

Breast reconstruction after mastectomy commonly utilizes implant-based methods (silicon implants) or autologous tissue flaps such as the latissimus dorsi (LD) flap or the transverse rectus abdominis musculocutaneous (TRAM) flap. The deltopectoral flap is traditionally used in head and neck reconstructions—particularly for esophageal or tracheal coverage—rather than for breast reconstruction. It lacks the necessary volume and contour to recreate a breast mound effectively, making it unsuitable as a standard option for post-mastectomy breast reconstruction.

23. (c) Small full thickness skin graft

A Wolfe graft traditionally refers to a small, full-thickness skin graft that includes the entire dermis (as opposed to split-thickness grafts, which include only part of the dermis). Full-thickness grafts provide better cosmetic results (e.g., less contraction, closer color match) and are often used for smaller defects where a robust aesthetic outcome is desired. Pinch grafts and partial-thickness grafts are thinner and may contract more. Pedicle grafts, meanwhile, remain attached via a vascular stalk, unlike free full-thickness Wolfe grafts.

24. (a) Pseudarthrosis is common

Diaphyseal aclasis (also called hereditary multiple exostoses) is an autosomal dominant condition in which bony outgrowths (osteochondromas) form near the metaphyses of long bones. Common features include genu valgum due to distal femoral or proximal tibial exostoses and a small but real (<1%) risk of malignant transformation (e.g., chondrosarcoma). However, pseudarthrosis (false joint formation) is more classically associated with neurofibromatosis rather than with diaphyseal aclasis; hence "pseudarthrosis is common" does not apply here and is the incorrect statement.

25. (a) Malunion

A Colles' fracture is a distal radius fracture with dorsal angulation. The most frequent complication is malunion, often resulting in the characteristic "dinner fork" or "silver fork" deformity. Because the distal fragment heals in a dorsally displaced position, patients can have persistent wrist deformity, reduced grip strength, and altered wrist mechanics. Delayed union or nonunion can occur but are relatively less common, and although Sudeck's (Complex Regional Pain Syndrome) may arise, malunion remains the single most common and classic complication.

26. (d) AFB positive sputum with normal chest CT scan

Surgical intervention in pulmonary tuberculosis is reserved for complications that fail medical management or threaten life (e.g., large persistent cavities with chronic infection, severe hemoptysis from an aspergilloma, or multi-drug-resistant TB in localized disease). Merely having acid-fast bacilli (AFB)–positive sputum with a normal imaging study is not an indication for surgery; these patients are typically managed with anti-TB drug regimens. Surgery is reserved for scenarios where medical therapy is insufficient or the risk of further hemorrhage/disease spread is very high.

27. (c) Right main bronchus is shorter, wider and nearly vertical

An aspirated foreign body typically follows the path of least resistance. The right main bronchus is straighter (more vertical), wider in diameter, and shorter in length compared to the left. This anatomic configuration makes it easier for an inhaled object to fall into the right side. In contrast, the left main bronchus

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56. (a) Accidental haemorrhage

"Accidental haemorrhage" is another term for abruptio placentae, wherein the placenta separates prematurely. A tense ("board-like"), tender uterus with significant pain and fetal demise is classic. Placenta praevia more often presents with painless bleeding; vasa praevia tends to have bleeding at membrane rupture with fetal distress. Ectopic pregnancy cannot occur at 38 weeks. Thus, abruptio placentae is the likely diagnosis when late-pregnancy vaginal bleeding is accompanied by severe abdominal pain, uterine tenderness, and fetal demise.

57. (c) Duodenal atresia

The "double bubble" ultrasound sign consists of two fluid-filled structures in the upper abdomen, typically representing the dilated stomach and proximal duodenum. It is most commonly associated with duodenal atresia (often linked with Down's syndrome). Anencephaly and meningomyelocele are neural tube defects detected differently on ultrasound, and hydronephrosis would show enlarged renal pelvicalyceal structures rather than the "double bubble" in the abdomen.

58. (d) 60%

Even after three unexplained consecutive pregnancy losses, many women can still achieve a successful outcome in a subsequent pregnancy. Studies indicate that, if no specific genetic, anatomical, immunological, or hormonal cause is found, the chance of ultimately delivering a viable infant can be about 60% or more. This underscores that "unexplained" recurrent miscarriage does not preclude future success, although closer monitoring and supportive therapy may be recommended.

59. (d) Suction evacuation

Hydatidiform mole (molar pregnancy) is best managed by uterine evacuation. Suction and evacuation (D&E) is the standard approach, even if the uterus is significantly enlarged. Hysterectomy may be considered for older patients who do not desire future fertility or when there is suspicion of malignancy, but the first-line in most patients—including those wishing to preserve fertility—is suction evacuation. Medical induction with prostaglandins is not standard for complete molar pregnancies because it poses higher risks of hemorrhage.

60. (c) Peak systolic velocity of the middle cerebral artery

Fetal anemia causes reduced blood viscosity and increased blood flow velocity in the fetal circulation. Doppler studies of the middle cerebral artery (MCA) show elevated peak systolic velocity under these conditions. This method has largely replaced more invasive procedures such as amniocentesis or percutaneous umbilical blood sampling for detecting fetal anemia (especially in Rh isoimmunization). The MCA peak systolic velocity is a well-validated, noninvasive test for monitoring anemia severity.

NODIA

61. (b) 100 mg/day for 100 days

According to Indian national guidelines, prophylactic iron supplementation for pregnant women typically involves 100 mg of elemental iron plus folic acid (0.5 mg) daily for at least 100 days. This standard aims to reduce the high prevalence of iron-deficiency anemia. Higher doses (150–200 mg) are sometimes used therapeutically for established anemia, but 100 mg daily is the recognized minimum prophylactic dose.

62. (c) Perform LSCS

In the second stage, an operative vaginal delivery (forceps or vacuum) is usually feasible only if the head is low enough (e.g. +2 station or more), the cervix is fully dilated, and there are no disproportions. Here, the fetal head is still at –1 station—too high for a safe instrumental delivery—plus severe molding suggests possible cephalopelvic disproportion or obstructed labor. The best course is cesarean section to prevent fetal or maternal complications from an overly prolonged second stage.

63. (c) Apply forceps and deliver

A fully dilated cervix, fetal head at +2 station, and maternal multiparity typically favor a

IX, and X (the vitamin K–dependent factors) remain more stable in stored blood. Clinically, this factor depletion is relevant when giving large-volume transfusions, as patients may need additional supplementation or fresh frozen plasma to replace labile factors.

35. (a) 1 and 2 only

Infantile hypertrophic pyloric stenosis (IHPS) is indeed more common in male infants (especially first-born males). Ultrasound is the modern investigation of choice, reliably demonstrating thickened pyloric muscle. Although "prepyloric" thickening is conceptually related, the pathology primarily involves the pyloric canal itself. More importantly, the condition typically becomes symptomatic between 2 and 8 weeks of age, not within the first week, making statement 4 incorrect. Because the question's options do not allow including 3 without 4, the accepted correct set is (1 and 2).

36. (b) Hyperphosphataemia

Long-term total parenteral nutrition (TPN) can lead to cholestasis and hepatic dysfunction (cholestatic jaundice), as well as metabolic derangements, including hyperglycemia and potential hyperosmolar states. Some patients also experience increased ammonia levels (hyperammonaemia) from high nitrogen loads. However, refeeding syndrome and TPN-related imbalances more commonly cause hypophosphataemia (especially if carbohydrates are introduced abruptly), not hyperphosphataemia. Therefore, "hyperphosphataemia" is the least likely among these options and is the correct "except."

37. (c) Bleeding is a common complication

Meckel's diverticulum is a remnant of the omphalomesenteric (vitelline) duct, and it arises on the antimesenteric border of the ileum. In children, painless rectal bleeding is a well-known (and relatively common) presentation. In adults, however, bleeding is notably less common than obstruction or inflammation. Regarding incidental findings, many surgeons recommend removal if the diverticulum has suspicious features (e.g., ectopic tissue, length >2 inches). Thus, for adults, "bleeding is a common complication" is the least accurate statement.

38. (d) 1, 2 and 3 only

Most branchial cysts (especially second branchial cleft cysts) indeed form tracts that pass between the internal and external carotid arteries (statement 1) and tend to present in young adulthood (statement 2). They typically appear along the anterior border of the sternocleidomastoid, often in its lower to middle thirds (statement 3). However, the majority arise from remnants of the second branchial cleft, not the fourth (making statement 4 incorrect). Thus, (1), (2), and (3) are correct.

39. (b) It is associated with higher rate of bile duct injuries than open cholecystectomy

Although laparoscopic cholecystectomy has become the gold standard for symptomatic gallstones, it has long been recognized to carry a slightly higher risk of common bile duct injury compared to the open approach—particularly in early learning curves. It is not contraindicated in acute cholecystitis (and indeed can be performed early), nor is it "primarily" for third-trimester pregnancy. Its safety in severe cardiorespiratory disease can be debated (pneumoperitoneum may reduce venous return), so the historically accepted correct statement is the slightly higher CBD injury rate.

40. (c) Occlusion of the subclavian artery proximal to origin of vertebral artery

In subclavian steal syndrome, there is a stenosis or occlusion in the subclavian artery before (proximal to) where the vertebral artery branches off. Because of this blockage, blood is "stolen" from the vertebral artery to supply the arm via retrograde flow, especially during exertion. This can reduce blood flow to the brain (posterior circulation), leading to symptoms like dizziness or syncope when the arm on the affected side is exercised. Distal occlusions do not produce the classic "steal" phenomenon.

41. (d) Estriol

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is longer, more horizontal, and narrower—thus less prone to direct aspiration. Clinically, right-sided bronchial obstruction is the most common scenario in foreign-body aspiration.

28. (a) Trans urethral resection of bladder tumour (TURBT)

Stage I bladder cancer, limited to the mucosa (Ta, T1) or submucosa, is typically managed by transurethral resection of the bladder tumor (TURBT), often followed by intravesical therapy (e.g., BCG) to reduce recurrence. This organ-preserving approach works well for superficial lesions. Radical cystectomy is reserved for more invasive stages (muscle-invasive disease). Systemic chemotherapy or radiotherapy might play a role in advanced or muscle-invasive disease. For early-stage bladder cancer, TURBT plus intravesical agents remains the gold standard.

29. (c) Flame-shaped haemorrhage

Flame-shaped hemorrhages in the retina are classic for hypertension because elevated blood pressure damages small vessels within the nerve fiber layer, creating these linear, "flame-like" bleeds. Dot and blot hemorrhages (deeper in the retina) are more characteristic of diabetic retinopathy, while subchoroidal hemorrhage is rare and usually related to severe trauma or exudative processes. "Wet sponge" hemorrhage is not a standard term in describing hypertensive retinopathy. Thus, flame-shaped hemorrhages are the hallmark finding in hypertensive fundus changes.

30. (b) Exogenous allergen

Spring catarrh, also known as vernal keratoconjunctivitis (VKC), is a seasonally recurrent, typically allergic inflammation of the conjunctiva. It is triggered by external allergens—often pollen or similar environmental factors—and is more prevalent in warm, dry climates. Patients present with itching, photophobia, and thick, ropy discharge. It is not primarily bacterial or viral in nature, nor is it caused by "endogenous toxins." Management frequently involves antihistamines, mast-cell stabilizers, and occasionally topical steroids for severe forms.

NODIA

31. (c) Radiotherapy

Early (T1) squamous cell carcinoma of the vocal cords can often be cured with radiotherapy while preserving excellent voice quality. Transoral laser excision is another modern approach, but historically and in many standard protocols, radiotherapy has been considered the best initial definitive treatment for a small, localized lesion. It avoids more invasive procedures, preserves laryngeal function, and achieves high cure rates. Cryosurgery is less commonly used. Surgical excision is typically reserved for larger or recurrent lesions.

32. (d) A-4 B-3 C-2 D-1

Turcot syndrome typically features colonic polyps plus CNS tumors (often medulloblastoma or glioma). Neurofibromatosis II is most famously linked with bilateral vestibular schwannomas. Neurofibromatosis I involves café-au-lait spots, neurofibromas, and Lisch nodules. Gardner syndrome (a variant of FAP) involves colonic polyps, osteomas, and desmoid tumors. Hence the correct pairing is: Turcot → CNS tumors, NF2 → bilateral schwannomas, NF1 → café-au-lait spots, Gardner → desmoid tumors.

33. (a) Change in the consciousness level

As intracranial pressure (ICP) rises, the brain's ability to maintain normal function is compromised, and the earliest and most sensitive indicator is often a subtle change in the patient's level of consciousness (e.g., confusion, lethargy). Pupillary dilatation (particularly ipsilateral to a mass lesion) typically occurs later, reflecting herniation or significant pressure on cranial nerve III. Hemiparesis may also develop subsequently. Thus, altered mental status is the first and most common clinical alarm in rising ICP.

34. (c) V and VIII

During storage, labile clotting factors such as Factor V and Factor VIII degrade relatively quickly. Hence, blood that has been in a blood bank for even a few days has lower levels of these factors. Factors II (prothrombin), VII,

and, if needed, to treat it. Simply treating as PID or mere observation risks missing a rupturing ectopic. Laparotomy is usually reserved for hemodynamic instability or complicated cases.

49. (c) 4 only

Methylergometrine (Methergine) causes strong uterine contractions and significant vasoconstriction, which can dangerously raise blood pressure and afterload—particularly risky in certain cardiac conditions (e.g., mitral stenosis, severe hypertensive heart disease). Hence intravenous Methergine prophylaxis at delivery is relatively contraindicated in pregnancy complicated by heart disease. External cephalic version, cesarean section, or necessary corrective heart surgery are not absolute contraindications; each may be done selectively if indicated.

50. (c) Seizures

Preeclampsia is characterized by new-onset hypertension after 20 weeks gestation, plus proteinuria (or other end-organ dysfunction). When seizures occur in the absence of another attributable cause, the condition is classified as eclampsia. Although hyperuricemia and thrombocytopenia can accompany severe preeclampsia, the defining "conversion" to eclampsia is the presence of tonic-clonic seizures. Molar pregnancy is an unrelated entity that also features hypertension in some cases, but it is not the direct criterion for eclampsia.

51. (a) Two arteries and one vein

A normal umbilical cord has two arteries (carrying deoxygenated blood from the fetus to the placenta) and one vein (carrying oxygenated blood back to the fetus). A "single umbilical artery" is a recognized anomaly and can be associated with congenital malformations, but the standard count is two arteries, one vein. Two veins is non-physiologic; likewise, one artery and one vein would be an abnormal variation.

52. (c) 2 and 3 only

Placenta praevia often leads to painless bleeding that can prompt preterm delivery or necessitate earlier intervention, thereby increasing the risk of prematurity (3). Chronic or recurrent bleeding may also compromise uteroplacental circulation, contributing to fetal growth restriction (2). However, placenta praevia is not classically tied to a higher rate of congenital anomalies (1). Thus, "intrauterine growth restriction" and "prematurity" are the key risks for the fetus in placenta praevia.

53. (a) Immediately

Large or suspicious ovarian masses identified around the second trimester (16 weeks is solidly second trimester) are usually recommended for surgical removal promptly—i.e., "in the second trimester." Waiting until delivery or postpartum risks complications like torsion or rupture; removing "immediately" (which, practically, means soon in the second trimester) is safer because miscarriage risk is lower than in the first trimester and the uterus is not yet so large as in later pregnancy.

54. (d) Gestational trophoblastic disease

Maternal serum AFP (alpha-fetoprotein) often rises significantly in multiple gestations (because of two or more fetuses) and in open fetal defects like neural tube or abdominal wall anomalies. In some skeletal dysplasias (including severe ones), mild elevations can occur, though it is less "classic" than with neural tube defects. By contrast, gestational trophoblastic disease (hydatidiform mole, choriocarcinoma) typically has elevated β-hCG but not AFP, since normal fetal tissue (including the fetal liver) is absent or minimal.

55. (b) Inhibin-A

The traditional "triple test" includes maternal serum alpha-fetoprotein (AFP), unconjugated estriol (uE3), and β-hCG. The "quadruple test" adds Inhibin-A, making detection of chromosomal anomalies such as Down's syndrome more sensitive. PAPP-A (Pregnancy-Associated Plasma Protein A) is typically part of first-trimester screening, while acetylcholinesterase assays are used in amniotic fluid to check for open neural tube defects. Human placental lactogen is not part of the standard triple/quad screen.

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Unconjugated estriol (uE3) is a sensitive indicator of placental and fetal well-being. It is produced by the placenta in conjunction with fetal adrenal precursors. A decline in estriol levels can signal placental insufficiency or fetal distress. Human placental lactogen (hPL) also reflects placental function but is less commonly used as a routine "indicator." Prolactin and progesterone are influenced by other factors and do not reliably measure the overall integrity of the maternal-fetal-placental unit like estriol does.

42. (d) Hypertonicity of the ureteric smooth muscle

Physiologically during pregnancy, progesterone and mechanical compression cause the ureters (especially on the right) to dilate and become more lax (i.e., reduced or "hypo" tonicity, not "hyper" tonicity). The GFR also rises. The bladder trigone can become edematous, somewhat elevated, and thickened. "Hypertonicity" of the ureteric smooth muscle is not correct; in fact, ureteral peristalsis is often diminished, contributing to hydronephrosis of pregnancy. Thus, (d) is the "except."

43. (c) 1000 mg

During pregnancy, calcium demands increase to support fetal skeletal development. Standard guidelines typically recommend about 1000 mg per day of elemental calcium for pregnant women (sometimes higher for adolescents). This amount helps to maintain maternal bone density and meet the needs of the developing fetus. Lower doses (250–500 mg) are insufficient for most pregnant patients, while extremely high doses (2000 mg) are not generally recommended as a universal daily requirement.

44. (a) Simple hysterectomy

CIN III (also termed carcinoma in situ) is a high-grade lesion with significant risk of progression to invasive cancer. In a patient who has completed childbearing ("completed her family"), the standard definitive treatment is a simple hysterectomy—removal of the uterus and cervix. This achieves complete excision of the transformation zone. Wertheim's hysterectomy is more extensive (for invasive cervical cancer), while conization or ablative procedures may be chosen for women desiring fertility preservation or for smaller lesions.

45. (a) Diagonal conjugate

The diagonal conjugate is the only anteroposterior pelvic diameter that can be directly measured by a vaginal examination. It extends from the lower border of the pubic symphysis to the sacral promontory. The true (anatomical) conjugate and the obstetric conjugate are slightly shorter and cannot be directly reached with a finger; they must be estimated from the diagonal conjugate. The diagonal measurement helps assess whether the pelvis is adequate for vaginal delivery.

NODIA

46. (d) 2, 3 and 4 only

Infants of diabetic mothers are classically large for gestational age (macrosomic) if maternal hyperglycemia is poorly controlled, not small; so 1 is incorrect. However, diabetic pregnancies are at increased risk of stillbirth (2), neonatal hypoglycemia (3) due to fetal hyperinsulinemia, and delayed fetal surfactant leading to respiratory distress syndrome (4). Therefore, 2, 3, and 4 are true complications, making (d) the correct choice.

47. (d) Heart disease

Women with significant structural or valvular heart disease (e.g., prosthetic valves or congenital defects) often require endocarditis prophylaxis during labor and delivery. The stress of childbirth and possible bacteremia can pose serious risks for infective endocarditis. By contrast, hypertension, renal disease, or diabetes mellitus do not routinely mandate prophylactic antibiotics in normal labor unless there is some other infection risk factor or specific indication.

48. (d) Perform a laparoscopy

A missed period, empty uterus on ultrasound, and cervical motion tenderness raise high suspicion of ectopic pregnancy. Vital signs are stable, so there is likely no ruptured massive hemorrhage—but the possibility of a tubal ectopic remains. In stable patients, diagnostic (and potentially therapeutic) laparoscopy is appropriate to confirm location of the pregnancy

quick vaginal delivery. However, the fetal heart rate is 170/min (a mild tachycardia possibly indicating distress or maternal fever). With the head at +2, an instrumental delivery (e.g., low forceps) is appropriate to expedite birth if there is concern for fetal well-being. Forceps provide more precise control than a ventouse in urgent scenarios. LSCS is unnecessary at +2 unless contraindications to instrumental delivery exist.

64. (b) Subinvolution of uterus

Secondary (late) postpartum hemorrhage occurs from 24 hours to 6 weeks postpartum. The single most frequent culprit is subinvolution of the uterus, often caused by retained placental fragments or infection, leading to delayed or inadequate uterine contraction. While "retained fragments" is a key factor, textbooks typically cite "subinvolution of the uterus" as the overarching mechanism—and the standard MCQ answer for "most common cause." Intrauterine infection can be a contributing factor, but subinvolution is the final pathological process.

65. (b) Prolactin and Oxytocin

Prolactin is the primary hormone that stimulates the mammary alveolar cells to produce milk (secretory function). Oxytocin then causes contraction of the myoepithelial cells around those alveoli, resulting in the "milk ejection" or let-down reflex. Thus, prolactin → milk "secretion," oxytocin → milk "ejection." Oestrogen, though involved in breast development, is not the key hormone for secretion or ejection, and oxytocin acts primarily as the ejection mediator.

66. (d) Hyaline membrane disease

"Small-for-date" (intrauterine growth-restricted) infants near term (37 weeks) frequently face risks of hypoglycemia, hypothermia, and sometimes hypocalcemia. However, hyaline membrane disease (respiratory distress syndrome) is more typically associated with insufficient surfactant in preterm babies rather than those who are term, even if they are growth-restricted. By 37 weeks, lung maturity is usually adequate, making true RDS much less likely than in earlier gestations.

67. (d) Platelet count

In pregnancy, plasma volume and red cell mass both rise (though plasma volume increases more, contributing to mild haemodilution). Leukocyte counts also commonly increase. By contrast, platelet count often remains the same or may even fall slightly due to haemodilution and increased platelet consumption. Hence, it does not show a net "physiological increase" and can be lower than normal non-pregnant values, although it typically remains within or near the lower limit of normal.

68. (c) Dilatation and curettage

In a patient over 35–40 years old with heavy menstrual bleeding (menorrhagia), the first step in surgical management typically involves endometrial sampling to exclude endometrial hyperplasia or malignancy. Dilatation and curettage (D&C) has historically been the common procedure for both diagnostic and (temporarily) therapeutic purposes, often preceding definitive procedures. Hysteroscopy (option a) may also be used diagnostically, but among these choices, D&C is classically the "first surgical intervention," especially if you need a reliable tissue sample.

69. (c) Reassure her and prescribe analgesics

Primary dysmenorrhea typically begins within a year or two after menarche and is not associated with pelvic pathology. Normal examination findings, plus the history of painful periods, suggests primary dysmenorrhea. The mainstay of treatment involves reassurance, nonsteroidal anti-inflammatory drugs (NSAIDs) for pain relief, and possibly hormonal therapy if pain is severe. Antibiotics or antifungals are not indicated without signs of infection, and invasive interventions (like D&C) are not required in the absence of suspected organic disease.

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70. (a) Excessive curettage during dilatation and curettage

Asherman's syndrome involves intrauterine adhesions or synechiae that form due to trauma to the basal endometrium, most often after vigorous or repeated D&C procedures (e.g., for retained products of conception). Once scar

"Pitting" refers to the spleen's action of removing inclusions—such as parasites or cellular debris—from erythrocytes without destroying the red blood cells themselves. In malaria, the spleen "pits" off the parasite, allowing the RBC to return to circulation (though often less viable). "Culling" involves the spleen's removal and destruction of entire damaged or senescent RBCs. Phagocytosis is a more general process of engulfing particles or cells. "Binding" is not a recognized term for selective parasitic removal in RBCs.

15. (c) 2, 3 and 4

Portal hypertension severity and prognosis are commonly assessed by measures overlapping with Child-Pugh classification, which includes serum albumin and bilirubin levels, prothrombin time (or INR), presence of ascites, and hepatic encephalopathy. Serum globulin level is less central to most standardized scoring systems. Albumin, bilirubin, and clinical evidence of ascites are critical indicators of liver synthetic function and portal pressure–related complications. Elevated bilirubin and low albumin correlate with advanced disease, while ascites reflects significant portal hypertension.

16. (b) Jaundice

Saint's triad comprises three conditions that interestingly can coexist in some patients: gallstones, hiatus hernia, and colonic diverticulosis. These are seemingly unrelated but may share demographic or dietary risk factors. Jaundice, on the other hand, is not part of Saint's triad. Jaundice typically denotes hyperbilirubinemia and is most often related to hepatic or biliary tract pathology. Although gallstones may cause obstructive jaundice, the triad itself specifically includes diverticulosis, hiatal hernia, and cholelithiasis—not jaundice.

17. (b) Pseudopancreatic cyst

In an alcoholic patient with acute epigastric pain and vomiting, pancreatitis is a prime concern. About 2–4 weeks after an acute episode, fluid collections can organize into a pseudopancreatic cyst. These cysts often present as a palpable epigastric mass and can cause persistent pain or fullness. Carcinoma of the pancreatic head usually has a different clinical course, often with painless jaundice. A perforated peptic ulcer with sub-hepatic abscess typically presents more acutely with peritonitis. Hepatoma seldom presents this way.

18. (d) Infected pancreatic necrosis

Most acute pancreatitis cases are managed conservatively, with surgery reserved for complications that threaten the patient's life. Infected pancreatic necrosis is a severe complication involving necrotic pancreatic tissue colonized by bacteria, leading to sepsis if untreated. In such cases, surgical (or interventional radiological) drainage and debridement are often necessary. Mere fluid collections or sterile necrosis without infection can be managed expectantly, since they may resolve or be amenable to minimal intervention if they remain asymptomatic or noninfectious.

19. (d) Thoracic vertebrae

Breast cancer commonly spreads to bone, particularly the vertebral column. Among the spinal segments, the thoracic vertebrae are the most frequent site for metastatic deposits due to their rich blood supply and red marrow content. The lumbar spine, pelvis, and ribs are also common sites, but statistically the thoracic spine bears the highest incidence for breast cancer metastasis. Bone metastases in breast cancer may be osteolytic, osteoblastic, or mixed, often leading to pain or pathologic fractures.

20. (c) Median nerve injury

Flexion of the index finger (particularly at the distal interphalangeal joint) is mainly governed by the flexor digitorum profundus and flexor digitorum superficialis muscles, which receive innervation from the median nerve (the anterior interosseous branch, specifically). An ulnar nerve lesion typically affects finger abduction/adduction and flexion of the distal phalanges of the ring and little fingers. Radial nerve injuries typically compromise wrist and finger extension. Dupuytren's contracture causes a fixed flexion deformity but does not primarily affect active flexion ability.

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78. (b) Trichomoniasis

Trichomonas vaginalis classically causes a frothy, greenish-yellow discharge along with a "strawberry cervix" (punctate hemorrhages on the ectocervix). Candidiasis is associated with thick, white "cottage cheese" discharge, gonococcal vaginitis often produces a purulent discharge, and Chlamydia typically gives a mucopurulent discharge but lacks the frothy green character and strawberry cervix.

79. (c) Measure endometrial thickness with ultrasound

Any postmenopausal bleeding warrants evaluation of the endometrium to rule out endometrial hyperplasia or carcinoma, even when basic examinations or Pap smear are normal. Transvaginal ultrasound (TVS) to measure endometrial thickness is the usual noninvasive next step. If the endometrial lining is abnormally thick, further sampling is indicated. Proceeding straight to hysterectomy or relying on observation alone could miss a significant pathology.

80. (a) Superior rectal artery

The superior rectal artery is actually a continuation of the inferior mesenteric artery, not a branch of the internal iliac. By contrast, the middle rectal, inferior vesical, and uterine arteries all arise from the anterior division of the internal iliac (hypogastric) artery. Other anterior-division branches include the obturator, internal pudendal, and vaginal arteries (in females).

81. (b) Sex-linked recessive

Haemophilia A (Factor VIII deficiency) and Haemophilia B (Factor IX deficiency) are classic examples of X-linked recessive disorders. Typically, males are affected, while females are carriers. Females will only manifest disease if they carry mutations on both X chromosomes (which is rare) or have X-inactivation that favors the mutant gene.

82. (a) Haemophilus ducreyi

Chancroid is a sexually transmitted infection characterized by a painful genital ulcer and tender suppurative inguinal adenopathy. It is caused by the Gram-negative bacillus Haemophilus ducreyi. Donovanosis (or granuloma inguinale) is caused by Klebsiella granulomatis (formerly Donovania granulomatis), while Chlamydia trachomatis is implicated in lymphogranuloma venereum (LGV) and other chlamydial infections.

83. (c) who have thromboembolic disorders

Combined hormonal contraceptives (oestrogen-progesterone) carry an increased risk of thromboembolic events. Women with pre-existing or high-risk thromboembolic conditions (e.g., thrombophilias, active deep vein thrombosis, pulmonary embolism) or a significant history of them are contraindicated for standard combined hormonal pills. Having anaemia or being under 25 and normotensive are not absolute contraindications to hormonal contraception.

84. (d) Tetanus

Herd immunity relies on reduction of person-to-person transmission in a population. Tetanus is not transmitted person-to-person; it is acquired via spores of Clostridium tetani entering wounds. Thus immunizing one part of a community does not protect unvaccinated individuals from tetanus exposure. By contrast, polio, measles, and diphtheria spread directly or indirectly from infected individuals, so vaccinating a large fraction can confer community-wide (herd) protection.

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85. (d) Zinc

WHO and many national guidelines recommend zinc supplementation during acute diarrheal episodes—commonly 20 mg per day for children over 6 months (10 mg if under 6 months)—for 10–14 days. Zinc helps reduce the severity and duration of diarrhea and supports intestinal mucosal recovery. Iron, calcium, or copper are not routinely given for acute diarrhea management, unless specific deficiencies exist.

86. (c) Specific protection

"Specific protection" refers to measures aimed at preventing a specific disease(s). Using condoms

for rabies if someone is bitten or exposed to a potentially rabid animal. Cholera, polio, and yellow fever do have vaccines but are generally used for pre-exposure or outbreak control rather than after suspected exposure. Rabies PEP is life-saving because once clinical symptoms develop, the disease is almost invariably fatal.

119. (c) Hard ticks

Kyasanur Forest Disease is a tick-borne viral hemorrhagic fever found mainly in forested areas of southwestern India. The virus is transmitted predominantly by hard ticks (e.g. Haemaphysalis species), which infect monkeys and occasionally humans entering the forest. Anopheles mosquitoes, sand flies, and mites transmit other diseases, but not KFD.

120. (b) IgG and IgM can both cross the placenta

Only IgG crosses the placenta efficiently, conferring passive immunity to the fetus. IgM is larger (pentameric) and does not typically cross the placenta. IgG indeed forms the majority (around 75–85%) of serum antibodies. IgM's half-life is roughly 5–10 days. IgA constitutes around 10–15% of serum immunoglobulins and is crucial in mucosal immunity, being abundant in secretions (e.g., colostrum, saliva). Therefore, the statement about IgG and IgM crossing the placenta is incorrect.

END

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94. (a) A-1 B-3 C-4 D-2

Lead exposure is classically linked with wrist drop (motor neuropathy). Coal tar's polycyclic hydrocarbons can cause lung cancer. Aniline dyes have a known association with bladder cancer. Benzol (i.e. benzene) exposure increases risk of leukemia. Hence the correct matching is A=1, B=3, C=4, D=2.

95. (d) Corpulence index

Quetelet's index (BMI) = weight / height^2, Ponderal index = weight / height^3, and Lorentz's formula for "ideal body weight" also depends on height. By contrast, the so-called "corpulence index," as often defined in classic anthropometry references, may base itself on a ratio of actual weight to a standard or "reference" weight rather than an explicit function of the individual's height. Thus among these four, the corpulence index is typically cited as not directly incorporating the person's height in its raw formula.

96. (c) Rotenone

Rotenone is derived from the roots of certain tropical plants (e.g., Derris species), making it a natural botanical insecticide. It acts as a contact and respiratory poison for insects. The others—lindane (an organochlorine), carbaryl (a carbamate), and propoxur (another synthetic carbamate)—are synthetic insecticides. Rotenone's "natural" status differentiates it here.

97. (c) 1–2 days before the rashes appear

Koplik's spots—small white papules on an erythematous base inside the cheeks—are pathognomonic of measles. They typically appear near the end of the prodromal phase, around 1–2 days before the characteristic measles rash begins. They do not coincide exactly with fever onset (which occurs even earlier), nor do they appear simultaneously with the rash. Hence (c) is most accurate.

98. (b) Meaning and purpose of life

The spiritual dimension of health reflects an individual's sense of purpose, inner values, and meaning in life. It encompasses the capacity for faith, beliefs, and moral well-being—leading to a sense of direction or fulfillment. "Balance of rationality and emotionality" often relates more to mental or psychological well-being, "quality of interpersonal ties" to social health, and "harmony within the individual" can overlap mental or emotional domains.

99. (c) Relative risk

Relative risk (RR) = incidence in exposed / incidence in unexposed. It indicates how many times more likely the exposed group is to develop the disease than the unexposed. Attributable risk is the difference (not the ratio). Positive predictive value is a diagnostic measure, and odds ratio (OR) compares the odds of exposure in diseased vs non-diseased (commonly used in case-control studies).

100. (d) A-2 B-4 C-1 D-3

Lathyrism stems from excessive consumption of Khesari dal (Lathyrus sativus) containing BOAA. Epidemic dropsy arises from Argemone oil contamination, with the toxic principle "sanguinarine." Aflatoxicosis is linked to molds (Aspergillus flavus) in improperly stored grains or nuts. Endemic ascites is associated with ingestion of pyrrolizidine alkaloids found in certain plants (e.g., Crotalaria).

101. (c) A-4 B-3 C-2 D-1

Japanese encephalitis is transmitted primarily by Culex mosquitoes, Kala-azar by the sandfly (Phlebotomus argentipes), African sleeping sickness by the tsetse fly (Glossina species), and Chagas disease by the reduviid (kissing) bug.

102. (d) Randomized controlled trial

To evaluate a new drug's efficacy, the strongest evidence comes from a randomized controlled trial (RCT). By randomly assigning participants to either the treatment or a control (placebo/ standard therapy) group, selection bias and confounding are minimized. Cross-sectional surveys only measure prevalence at one point, case-control studies are retrospective for etiology, and "natural experiment" is an observational situation rather than a formal prospective trial.

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helps prevent STDs such as HIV, gonorrhea, chlamydia, etc. Primordial prevention addresses risk factors at the societal/environmental level before they emerge. Secondary prevention involves early detection and intervention (e.g., screening). Health promotion is a broader approach to improving well-being (e.g., exercise programs, nutrition). In this case, condoms directly block STD transmission → a form of specific protection.

87. (c) 5 years

The "child survival index" (and similarly "Under-5 survival rate") is a global health metric tracking how many children survive to 5 years of age. The under-5 mortality rate is a key indicator used by international agencies to gauge a country's healthcare and living conditions. Age 1 year survival typically relates to the infant mortality rate, whereas survival to older ages (e.g., 15) is not the standard measure for the "child survival index."

88. (a) Primary prevention

Primary prevention aims to prevent the occurrence of disease. Chemoprophylaxis for malaria (e.g., using drugs like chloroquine or mefloquine in endemic zones) prevents the parasite from establishing infection in the first place. Secondary prevention would be early detection and treatment; tertiary aims to reduce disability or complications in established disease. Primordial prevention addresses broad risk factors at the policy/societal level before they manifest in individuals. Hence malaria chemoprophylaxis is classic primary prevention.

89. (b) Incidence Rate

"Risk" refers to the probability that an initially disease-free individual will develop a condition over a specified time. This is precisely what the incidence rate captures: new cases in a defined, at-risk population per unit time. Prevalence measures how many individuals currently have the disease (old plus new cases). Case Fatality Rate is the proportion of diseased who die from it, and Communicability Rate concerns the ease of transmission. Only incidence best reflects the "risk of disease."

90. (a) 75% reduction in the incidence rate in the exposed individuals compared with the unexposed

Relative risk (RR) is the incidence in the exposed divided by the incidence in the unexposed. A RR of 0.25 means those exposed experience only 25% of the disease incidence seen in the unexposed—i.e., a 75% lower incidence. Mathematically, 1 – 0.25 = 0.75, or 75% reduction. Statements about "increase" or "2.5 times higher risk" do not align with RR = 0.25.

91. (d) Screening Tests

Secondary prevention targets early detection and treatment in asymptomatic individuals, aiming to halt or slow disease progression. Screening tests (e.g., mammograms, Pap smears) exemplify secondary prevention by identifying disease at a stage when intervention is more effective. Health education (a) is primarily health promotion; wearing helmets (b) is primary prevention to reduce injury; and using limb callipers (c) is rehabilitation (tertiary prevention).

92. (b) Specific protection

Providing sanitary latrines helps prevent the fecal–oral transmission of infectious diseases, a targeted measure to block a specific mode of spread. Hence it is a classic example of "specific protection" under primary prevention. Health promotion (a) involves broader lifestyle changes, and early diagnosis/treatment (c) or disability limitation/rehabilitation (d) come later. Safe latrines directly protect from particular infections (e.g., enteric pathogens).

93. (a) between one sample and another

Sampling error refers to the difference between a sample's measured result and the true population parameter, simply because each sample is only a subset. If multiple independent samples are drawn from the same population, some fluctuation (sampling error) is inevitable. Variation between observers or instruments is observer or measurement error; variation in repeated readings on the same subject by the same instrument is also a form of measurement error, not specifically sampling error.

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Immediate referral is reserved for severe cases with chest indrawing or other danger signs.

111. (a) Lead poisoning

Basophilic stippling (aggregation of ribosomal RNA) in red blood cells is a hallmark laboratory sign in lead poisoning. Chronic lead exposure interferes with heme synthesis and causes these characteristic dots in RBCs. Arsenic poisoning typically presents with gastrointestinal distress, garlic odor on breath, and peripheral neuropathy, not basophilic stippling. Asbestosis and silicosis are pneumoconioses primarily affecting lungs; they are not associated with basophilic stippling.

112. (b) HBsAg, HBeAg, Anti-HBc, Anti-HBe

When someone acquires hepatitis B, HBsAg (Hepatitis B surface antigen) appears first, indicating active infection. Next, HBeAg (secretory protein) signifies high infectivity. Anti-HBc (antibody to hepatitis B core) emerges as part of the immune response; initially IgM, then IgG. Anti-HBe typically arises later, implying reduced viral replication. Eventually, with successful clearance, HBsAg disappears and anti-HBs develops (not listed here but confers immunity). Thus the usual order is HBsAg → HBeAg → Anti-HBc → Anti-HBe.

113. (b) Bites by wild animals

According to WHO classification, Category (Class) III rabies exposure includes transdermal bites or scratches from any suspected or wild animal (or licks on broken skin/mucosa). Bites by wild animals are automatically high-risk exposures (Class III). Licks on intact skin is generally Category I or II. Drinking unpasteurized milk from a rabid animal is not the usual direct route for rabies (though risky, it's less classically categorized as Class III). Any penetrating bite by a potentially rabid wild animal is indeed Class III.

114. (c) Leucocytosis

Most common acute food poisonings (especially if toxin-mediated, like staphylococcal or Bacillus cereus) present rapidly with prominent vomiting or diarrhea, and sometimes mild fever ("high skin temperature"). Tenesmus can occur if the pathogen involves the lower bowel, but frank leucocytosis is less typical in quick-onset, preformed toxin–driven scenarios. Significant elevations in white cells usually accompany invasive bacterial dysentery or prolonged infections; that's not the classic pattern in rapid-onset "acute food poisoning" from preformed toxins.

115. (d) 1, 2, 3 and 4

Both temporary and permanent hardness in water arise from dissolved calcium and magnesium compounds. Temporary hardness stems from bicarbonates (calcium or magnesium) and can be removed by boiling. Permanent hardness involves sulphates or chlorides (e.g., calcium sulphate, magnesium sulphate). All four listed salts—magnesium sulphate, calcium bicarbonate, calcium sulphate, magnesium bicarbonate—contribute to water hardness. Hence all (1, 2, 3, and 4) are implicated.

116. (d) Previous history of abortion

Progestasert (an older progesterone-releasing IUD) is contraindicated in conditions like active PID, significant uterine fibroids distorting the cavity, or high-risk factors for ectopic pregnancy. Having a past abortion (spontaneous or induced) does not bar the use of an intrauterine device, once the uterus has returned to normal. Thus a prior abortion is not an absolute contraindication, provided no infection or uterine abnormality persists.

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117. (d) Progestasert

Intrauterine devices (IUDs) are categorized by "generations":

1. First-generation: inert plastic devices (e.g., Lippes loop)
2. Second-generation: copper-bearing devices (e.g., Cu-7, TCu-200, TCu-380A)
3. Third-generation: hormone-releasing devices (e.g., Progestasert, LNG-IUS).

Progestasert was an early progestin-releasing IUD, making it a third-generation type.

118. (c) Rabies

Post-exposure prophylaxis (PEP) with vaccine (and sometimes immunoglobulin) is standard

103. (d) 1 and 3

A valid screening test generally targets a disease that (1) has a reasonably long latent or preclinical phase—so the test can detect it early—and (3) is treatable, meaning early detection improves outcomes. The condition need not be rare; in fact, screening is more cost-effective for relatively prevalent disorders. Hence (d) is correct.

104. (a) Relative risk

"Risk ratio" is another term for "relative risk," namely (incidence in exposed) / (incidence in unexposed). Attributable risk is the difference between those incidences, population attributable risk modifies that difference for the entire population, and the odds ratio is a separate measure used commonly in case-control studies (odds of exposure among cases vs. controls).

105. (b) 2 only

"Pathogenicity" is the ability of an agent to produce clinically apparent disease once infection occurs. "Infectivity" (1) is about entry and multiplication within a host, not necessarily with symptoms. "Virulence" (3) is about severity or fatality among those with clinical disease. "Communicability" (4) is about spread from one host to another. Hence the ability to induce clinical illness specifically matches "pathogenicity."

106. (b) Cohort study

The Framingham Heart Study is one of the best-known prospective cohort studies, following a large group of initially healthy individuals over time to determine risk factors for cardiovascular disease. It is neither a retrospective case-control study nor an experimental (randomized) trial; and it is not a one-time cross-sectional survey. It tracks participants repeatedly, collecting data on development of heart disease and related outcomes.

107. (d) Proportional mortality rate

Proportional mortality rate uses total deaths as the denominator—specifically, the percentage of all deaths attributable to a certain cause. By contrast, crude death rates and age-specific death rates use the mid-year (or average) population as their denominator. The weekly death rate (for a region/year) also typically references the population at risk for that period. Proportional mortality is simply (deaths from a certain cause) / (all deaths), not population based.

108. (b) Total fertility rate

The total fertility rate (TFR) estimates the average number of children a woman would bear if she experienced the prevailing age-specific fertility rates throughout her reproductive lifespan. It is considered the best single measure of "completed family size" or overall fertility in a population. The general fertility rate, gross reproduction rate, and net reproduction rate each focus on different aspects of reproduction or do not encompass a woman's entire reproductive period in the same straightforward way that TFR does.

109. (b) Continue the Intensive Phase of treatment with 4 drugs for 1 more month only, regardless of sputum positivity after that

Under RNTCP guidelines (DOTS), if a new TB patient (Category I) remains sputum-positive after the initial 2 months of HRZE (Isoniazid, Rifampicin, Pyrazinamide, Ethambutol), the Intensive Phase is extended for one additional month of the same four-drug regimen. After 3 total months of intensive therapy, the sputum is checked again. If still positive, the case may be considered a treatment failure or managed accordingly. Merely switching to the continuation phase or adding a fifth drug right away is not standard protocol.

110. (c) Administration of antibiotic at home along with treatment for fever, advising the mother to return for reassessment after two days

In children aged 12 months to 5 years, pneumonia (per ARI guidelines) is defined by a respiratory rate >40 breaths/min plus cough or difficulty breathing, even if there is no chest indrawing. Here, the RR is 55/min, indicating pneumonia, not severe pneumonia (no indrawing). The recommended approach is to treat with an appropriate antibiotic at home, manage fever, and have close follow-up in about two days.

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21. Which one of the following is not a premalignant condition for colon cancer?
(a) Familial adenomatous polyposis coli
(b) Villous adenoma
(c) Ulcerative colitis
(d) Hamartomatous polyps

22. Dysphagia lusoria is a condition which results from
(a) oesophageal atresia
(b) aberrant right subclavian artery
(c) oesophageal web
(d) corrosive stricture

23. Dumping syndrome can occur after
(a) Billroth-II operation
(b) Heller's operation
(c) Whipple's operation
(d) Nissen fundoplication

24. Oesophageal atresia may occur as a part of VACTER group of anomalies. What does 'TE' stand for?
(a) Tetralogy of Fallot
(b) Thoracic empyema
(c) Tracheo-oesophageal fistula
(d) Talipes equinovarus

25. With reference to Le Fort I fracture, consider the following statements :
1. Fracture line separates alveolus and palate from the facial skeleton.
2. Fracture line passes from the pyriform aperture.
3. Fracture line runs posteriorly to include pterygoid plates.
4. Fracture line passes through orbit.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1, 2 and 3
(c) 1 and 3 only
(d) 2, 3 and 4

26. A four-month-old baby has cleft lip and palate. How would you manage the baby?
(a) Immediate repair of the lip
(b) Immediate repair of the lip and palate
(c) Delayed repair of the lip and palate until 2 years
(d) Delayed repair of the lip and palate until pre-school age

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27. Osteitis fibrosa cystica is a feature of
(a) hyperthyroidism
(b) milk-alkali syndrome
(c) hyperparathyroidism
(d) rickets

28. What is the most common injury sustained due to fall on out-stretched hand by a person aged 65 years?
(a) Colles' fracture
(b) Supracondylar fracture
(c) Shoulder dislocation
(d) Fracture of metacarpals

29. The lungs are derived from an out-pouching of the primitive foregut during which period of intrauterine life?
(a) 3rd week
(b) 4th week
(c) 5th week
(d) 6th week

30. Which one of the following is a cyanotic congenital heart disease?
(a) Patent ductus arteriosus
(b) Atrial septal defect
(c) Ventricular septal defect
(d) Tetralogy of Fallot

31. Consider the following conditions in blunt trauma of the chest :
1. Flail chest
2. Drainage of 1 litre of blood from the chest tube
3. Cardiac tamponade
4. Rupture of oesophagus

Which of the above are the indications of emergency thoracotomy?
(a) 1, 2 and 3 only
(b) 2 and 4 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

10. The normal ankle brachial pressure index (ABPI) is 1·0. A value of 0·8 suggests
(a) good flow
(b) some degree of arterial obstruction
(c) impending gangrene
(d) presence of collaterals

11. Acinic cell carcinoma is found in
(a) thyroid
(b) salivary glands
(c) breast
(d) stomach

12. Serum calcitonin may be elevated in
(a) islet cell tumour of pancreas
(b) choriocarcinoma of ovary
(c) carcinoid tumour of appendix
(d) medullary carcinoma of thyroid

13. Which of the following does not alter the 'T' stage in breast cancer?
(a) Peau d'orange
(b) Skin ulceration
(c) Pectoral muscle involvement
(d) Serratus anterior muscle involvement

14. Treatment with herceptin in breast cancer is indicated for
(a) ER receptor +ve tumours
(b) PR receptor +ve tumours
(c) K : 67 stain +ve tumours
(d) tumours with over-expressed C-erb B-2 protein

15. Pneumobilia can be seen in
(a) Mirrizi's syndrome
(b) acute pancreatitis
(c) gallstone ileus
(d) carcinoma gallbladder

16. Which one of the following is not a component of Charcot's triad?
(a) Pain
(b) Fever
(c) Vomiting
(d) Jaundice

17. 'Double duct' sign is diagnostic of
(a) periampullary carcinoma
(b) gallbladder carcinoma
(c) Klatskin's carcinoma
(d) hepatocellular carcinoma

18. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Condition)		**List-II (Causative agent)**
A	Viral hepatitis	1	Enteric bacteria
B	Amoebic liver abscess	2	Echinococcus granulosus
C	Ascending cholangitis	3	Hepatitis A, B, C
D	Hydatid liver disease	4	Entamoeba histolytica

Code :
(a) A B C D → 3 4 1 2
(b) A B C D → 3 1 4 2
(c) A B C D → 2 4 1 3
(d) A B C D → 2 1 4 3

19. What is the most common hernia in females?
(a) Femoral hernia
(b) Spigelian hernia
(c) Inguinal hernia
(d) Obturator hernia

20. Consider the following radiological signs :
1. Claw sign in barium enema
2. Apple core sign in barium enema
3. Multiple fluid levels with absent caecal gas in plain skiagram of abdomen
4. Single large fluid and air level in plain skiagram of abdomen
Which of the above signs is/are suggestive of ileocolic intussusception?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 3 only
(d) 1, 2, 3 and 4

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1. Hypertrophic scar is characterized by the following, except
   (a) it is non-familial
   (b) it outgrows the wound area
   (c) it involves the flexor surface
   (d) it is not related to the race

2. Match List-I with List-II and select the correct answer using the code given below the Lists:

	List-I (Agent)		List-II (Name/ Example)
A	Polymeric film	1	Benzoyl benzoic acid
B	Debriding agent	2	Vandase streptokinase
C	Biological membrane	3	Opsite tegaderm
D	Enzymatic agent	4	Porcine skin amnion

   Code:
   (a) A B C D → 1 2 3 4
   (b) A B C D → 3 1 4 2
   (c) A B C D → 3 1 2 4
   (d) A B C D → 1 2 4 3

3. In carcinoma breast, adjuvant radiotherapy is indicated after modified radical mastectomy in all of the following, except
   (a) ER, PR hormone receptor negative tumour
   (b) tumour size more than 5 cm
   (c) positive margins
   (d) more than four positive axillary lymph nodes

4. Langhans' giant cells are diagnostic of
   (a) lymphoma
   (b) foreign-body granuloma
   (c) typhoid Peyer's patch
   (d) tuberculoma

5. Autoclaving is a method of sterilization. The process involves heating by steam at
   (a) 10 lb pressure, 100 °C temperature for 10 minutes
   (b) 15 lb pressure, 120 °C temperature for 15 minutes
   (c) 20 lb pressure, 120 °C temperature for 20 minutes
   (d) 25 lb pressure, 120 °C temperature for 25 minutes

6. The percutaneous PAIR therapy used in the treatment of uncomplicated hepatic hydatid cyst can be associated with the following complications, except
   (a) urticaria
   (b) anaphylaxis
   (c) hypotension
   (d) vomiting

7. Which one of the following biochemical abnormalities can be produced by repeated vomiting?
   (a) Uraemia
   (b) Ketosis
   (c) Metabolic alkalosis
   (d) Metabolic acidosis

8. A patient presents with claudication in both buttocks and has impotence. The clinical examination reveals bruit over lower abdomen. What is the clinical diagnosis?
   (a) Bilateral iliac artery occlusion
   (b) Aortoiliac occlusion
   (c) Bilateral iliofemoral occlusion
   (d) Bilateral femoropopliteal occlusion

9. Trendelenburg's operation is done for
   (a) varicocele
   (b) primary varicose veins
   (c) deep vein thrombosis with varicose veins
   (d) arteriovenous fistula

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32. A man falls astride a penetrating object. He develops retention of urine, perineal hematoma and bleeding from urinary meatus. The nature of injury would be
(a) rupture of membranous urethra
(b) rupture of bulbar urethra
(c) intraperitoneal rupture of bladder
(d) extraperitoneal rupture of bladder

33. Renal carcinoma with solitary lung secondary is best treated by
(a) radiotherapy
(b) surgery
(c) chemotherapy
(d) immunotherapy

34. Priapism in a young male could occur because of
(a) testicular cancer
(b) carcinoid tumour of appendix
(c) leukaemia
(d) penile cancer

35. What is the most common indication of tracheostomy in a child?
(a) Carcinoma of larynx
(b) Laryngeal diphtheria
(c) Vocal cord paralysis
(d) Poliomyelitis

36. Consider the following statements with reference to scalp :
1. The blood vessels lie within dense connective tissue.
2. The anterior scalp is supplied by supraorbital and supratrochlear vessels.
3. The lateral and posterior scalp is supplied by superficial temporal, posterior auricular and occipital arteries.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

37. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Aetiology)		**List-II (Type of cyst)**
A	Hamartoma	1	Enterogenous
B	Failure of connections of tubular elements	2	Urachal
C	Persistence of normal vestigial remnants	3	Polycystic kidney
D	Duplication	4	Lymphatic cyst

Code :
(a) A B C D → 4 3 2 1
(b) A B C D → 4 3 1 2
(c) A B C D → 3 4 1 2
(d) A B C D → 3 4 2 1

38. What is the most common cause of gastric outlet obstruction in a 4-week-old baby?
(a) Annular pancreas
(b) Foreign body
(c) Congenital hypertrophic pyloric stenosis
(d) Duodenal atresia

39. A middle-aged man presents with a lower jaw swelling. Clinically, there is expansion of the left ramus and the X-ray mandible shows soap bubble appearance. What is the clinical diagnosis?
(a) Keratocyst
(b) Adamantinoma
(c) Aneurysmal bone cyst
(d) Odontogenic myxoma

40. The transition between the stomach and duodenum is marked by
(a) vein of Mayo
(b) hepatoduodenal ligament
(c) gastroduodenal artery
(d) incisura

41. In pregnancy, there is a physiological increase of the
(a) blood pressure in the third trimester
(b) blood viscosity

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80. A 16-year-old girl presents with primary amenorrhoea and repeated periodic pain. On examination, a suprapubic mass is felt up to the umbilicus. The most likely diagnosis is
(a) large ovarian cyst
(b) cryptomenorrhoea
(c) bladder-neck hypertrophy
(d) uterine leiomyoma

81. Match List-I with List-II and select the correct answer using the code given below the Lists:

	List-I (Health indicators)		**List-II (Examples)**
A	Morbidity indicator	1	Dependency ratio
B	Socio-economic indicator	2	Bed-occupancy rate
C	Healthcare delivery indicator	3	Attendance rates at out-patient department
D	Utilization rates	4	Population-bed ratio

Code :
(a) A B C D → 2 1 4 3
(b) A B C D → 3 4 1 2
(c) A B C D → 3 1 2 4
(d) A B C D → 2 4 1 3

82. Winslow's definition of public health does not include which one of the following concepts?
(a) Organized community effort
(b) Immunization against diseases
(c) Prolonging life
(d) Promoting health and efficiency

83. In a cohort study spanning 20 years, 50 out of 5000 smokers developed lung cancer, and 10 out of 10000 non-smokers developed lung cancer. What is the 'relative risk' among smokers for developing lung cancer?
(a) 5
(b) 10
(c) 45
(d) 50

84. A study done in UK of 5174 births at home and 11156 births in hospitals showed perinatal mortality rates of 5·4/1000 in home births and 27·8/1000 in hospital births. Apparently perinatal mortality was higher in hospital births. What kind of Association is this?
(a) Direct Association
(b) Indirect Association
(c) Spurious Association
(d) Temporal Association

85. What is the most cost-effective screening for identifying carcinoma cervix in a population?
(a) Mass screening
(b) High risk selective screening
(c) Multiphasic screening
(d) Prospective screening

86. Which of the following are the components of epidemiological triad?
(a) Sensitivity, specificity and predictive value
(b) Time, place and person distribution
(c) Agent, host and environment factors
(d) Prevalence, incidence and attack rate

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87. Consider the following :
1. Hepatitis A outbreak
2. Polio outbreak
3. Gonorrhoea outbreak through prostitution
Which of the above-listed outbreaks is/are classified under propagated epidemics?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

88. Consider the following statements regarding folic acid :
1. It is needed for normal development of blood cells in the marrow.
2. It has a role in the synthesis of nucleic acids.
3. It is resistant to boiling.
Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2
(c) 1 and 3

50. Which one of the following is diagnosed by Spiegelberg criteria?
(a) Molar pregnancy
(b) Ovarian pregnancy
(c) Uterine pregnancy
(d) Twin pregnancy

51. Which of the following is the most appropriate management in a ruptured tubal pregnancy?
(a) Quick resuscitation followed by laparotomy and excision of the offending tube
(b) Blood transfusion immediately after the clamps have been placed to control the bleeding
(c) Autotransfusion of the fresh blood harvested from the peritoneal cavity
(d) Excision of the offending tube and the ipsilateral ovary (salpingo-oophorectomy)

52. Which of the following is the most common congenital viral infection?
(a) Rubella
(b) Cytomegalovirus
(c) Herpes simplex
(d) HIV

53. Abortions in the second trimester mainly occur due to
(a) retroverted gravid uterus
(b) congenital anomalies of the uterus
(c) congenital anomalies of the fetus
(d) hormonal deficiencies

54. Abnormal foetal heart-rate patterns on electronic foetal monitoring include the following, except
(a) bradycardia <120/minute lasting for 15 minutes
(b) tachycardia >170/minute lasting for 15 minutes
(c) early decelerations
(d) late decelerations

55. B-Lynch stitch is applied on the uterus for the treatment of
(a) incompetent os
(b) atonic PPH
(c) bleeding from placental bed of placenta praevia
(d) ruptured uterus

56. A 20-year-old full-term primigravida is brought to casualty with labour pains for last 24 hours and a hand prolapse. On examination, she has pulse 96/min, BP 120/80 mm Hg, and mild pallor. The abdominal examination reveals the uterine height at 32 weeks, the foetus in transverse lie and absent foetal heart sounds. On vaginal examination, the left arm of the foetus is prolapsed and the foetal ribs are palpable. The pelvis is adequate. What would be the best management option?
(a) External cephalic version
(b) Decapitation and delivering the baby vaginally
(c) Internal podalic version
(d) Lower segment caesarean section

57. Regarding the use of a ventouse, which one of the following statements is not correct?
(a) It can be applied when the cervix is incompletely dilated
(b) The cup should be centrally placed on the vertex
(c) The largest size of the cup is preferred
(d) The maximum pressure should not exceed 0·8 kg/cm^2

58. The presence of a retraction ring at the junction of upper and lower uterine segment in labour indicates
(a) prolonged labour
(b) cervical dystocia
(c) obstructed labour
(d) precipitate labour

59. The indications of an elective caesarean section include all of the following, except
(a) placenta praevia
(b) cephalopelvic disproportion
(c) previous lower segment caesarean section
(d) carcinoma cervix

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3. Areas with API less than 2 are regularly sprayed with insecticides.

Which of the above strategies is/are being used in India?
(a) 1 only
(b) 1 and 2
(c) 2 only
(d) 2 and 3

115. Which is the correct sequence in increasing order for crude birthrates in the countries named herewith?
(a) Sri Lanka, Japan, Nepal, India
(b) India, Japan, Sri Lanka, Nepal
(c) Japan, Sri Lanka, India, Nepal
(d) India, Japan, Nepal, Sri Lanka

116. Which is the fertility indicator that gives the approximate magnitude of completed family size?
(a) General Fertility Rate
(b) Age-specific Fertility Rate
(c) Total Fertility Rate
(d) Gross Reproduction Rate

117. Consider the following demographic parameters:
1. Average number of daughters born to a woman
2. Sum of age-specific fertility rates
3. Magnitude of completed family size

Which of the above parameters reflect/reflects total fertility rate?
(a) 1 only
(b) 1 and 3
(c) 2 and 3
(d) 3 only

118. The larvae of which one of the following mosquitoes cannot be successfully killed by spreading oil on the surface of its breeding water sources?
(a) Anopheles
(b) Aedes
(c) Mansonoides
(d) Culex

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119. Which of the following is the least toxic organophosphorus compound?
(a) Abate
(b) Fenitrothion
(c) Malathion
(d) Parathion

120. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Vector)		**List-II (Disease)**
A	A.Hard tick	1	Epidemic typhus
B	Sandfly	2	Oriental sore
C	Louse	3	Tularemia
D	Soft tick	4	Relapsing fever

Code
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-2 C-1 D-4

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(b) through negative feedback on gonadotrophins
(c) through the hypothalamic estrogenic effect
(d) through its anti-estrogenic effect

68. Asymptomatic endometrial tuberculosis leading to infertility is categorized in which diagnostic category of DOTS?
(a) Category I
(b) Category II
(c) Category III
(d) Category IV

69. Painless genital ulcer is found in which one of the following genital infections?
(a) Granuloma inguinale
(b) Chancroid
(c) Lymphogranuloma venereum
(d) Herpes simplex

70. In a lady with a regular 28-day menstrual cycle, what is the 'safe period'?
(a) Initial 14 days
(b) Later 14 days
(c) First and last seven days
(d) First seven days only

71. Which tumour marker is most often elevated in ovarian granulosa cell tumour?
(a) Inhibin
(b) Alpha fetoprotein
(c) Beta-HCG
(d) CA 125

72. The risk of progression to endometrial cancer from simple hyperplasia without atypia is
(a) 1%
(b) 3–5%
(c) 8–10%
(d) 25–30%

73. Worldwide, which is the most commonly used copper-bearing intrauterine contraceptive device?
(a) Copper T-200
(b) Copper T-380
(c) GyneFix
(d) Copper-7

74. The following are the contra-indications to the use of combined oral contraceptive pills, except
(a) breastfeeding
(b) history of deep venous thrombosis
(c) active viral hepatitis
(d) bronchial asthma

75. Mini pill should be started on the
(a) first day of the cycle
(b) second day of the cycle
(c) third day of the cycle
(d) fifth day of the cycle

76. What is the sequence of events in termination of pregnancy by medical method?
(a) Mifepristone – Bleeding – Misoprostol – USG
(b) Misoprostol – Mifepristol – USG – Bleeding
(c) Mifepristone – Misoprostol – Bleeding – USG
(d) Mifepristone – Misoprostol – USG – Bleeding

77. Which parenteral iron preparation does not cause anaphylaxis on intravenous administration?
(a) Iron dextran
(b) Iron sorbitol
(c) Iron fumerate
(d) Iron sucrose

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78. The following drugs can cause osteoporosis, except
(a) GnRH analogue
(b) danazol
(c) corticosteroid
(d) mifepristone

79. The ideal distension medium for operative hysteroscopy using electrocautery is
(a) CO_2
(b) N-saline
(c) 5% dextrose saline
(d) 1·5% glycine

60. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Manoeuvre)		**List-II (Indication)**
A	Pinard's manoeuvre	1	Delivery of the extended arms in a breech
B	Pinard's manoeuvre	2	Delivery of a foot into the vagina in a breech
C	Mauriceau-Smellie-Veit manoeuvre	3	Breech presentation at term
D	External cephalic version	4	Delivery of the after-coming head of a breech

(a) A B C D → 5 3 4 1
(b) A B C D → 4 2 1 3
(c) A B C D → 2 1 4 3
(d) A B C D → 3 5 2 4

61. In the puerperium, which of the following hormonal changes are responsible for lactogenesis?
1. A sudden fall in the oestrogen levels after delivery
2. Reduction of prolactin inhibiting factor from the hypothalamus
3. Release of prolactin from the anterior pituitary
4. Release of oxytocin from the posterior pituitary

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 1 and 4
(c) 1, 2 and 3
(d) 2, 3 and 4

62. Which one of the following is due to the monosomy of X-chromosome?
(a) Adrenogenital syndrome
(b) Testicular feminization
(c) Turner's syndrome
(d) Klinefelter's syndrome

63. The true conjugate of the pelvic brim measures
(a) 10·5 cm
(b) 11·5 cm
(c) 12·5 cm
(d) 13·5 cm

64. Before puberty, what is the ratio between the cervical length and uterine body?
(a) 1 : 2
(b) 2 : 1
(c) 1 : 3
(d) 1 : 4

65. The umbilical cord normally contains
(a) two arteries and two veins
(b) one artery and one vein
(c) two arteries and one vein
(d) one artery and two veins

66. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Pelvic floor abnormality)		**List-II (Name of the condition)**
A	Descent of upper 2/3 of anterior vaginal wall	1	Urethrocele
B	Descent of lower 1/3 of anterior vaginal wall	2	Enterocele
C	Descent of upper 1/3 of posterior vaginal wall	3	Cystocele
D	Descent of lower 2/3 of posterior vaginal wall	4	Rectocele

Code :
(a) A B C D → 3 1 2 4
(b) A B C D → 4 1 2 3
(c) A B C D → 3 2 1 4
(d) A B C D → 4 2 1 3

67. The mechanism of action by which clomiphene citrate induces ovulation is
(a) through positive feedback on gonadotrophins

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(d) 2 and 3

89. With reference to the role of fibre in diet, consider the following statements :
1. It inhibits faecal mutagen synthesis.
2. It reduces post-prandial glucose.
3. It increases the transit time of food in the bowel.

Which of the above represent(s) the role of fibre in our diet?
(a) 1 only
(b) 1 and 2 only
(c) 2 only
(d) 1, 2 and 3

90. What is the Body Mass Index of a person 150 cm tall and weighing 67·5 kg?
(a) 24
(b) 27
(c) 30
(d) 33

91. Consider the following :
1. Night blindness
2. Corneal xerosis
3. Conjunctival xerosis
4. Keratomalacia

What is the correct sequence of the above in the progress of clinical presentation of vitamin A deficiency blindness?
(a) 1–2–3–4
(b) 1–3–2–4
(c) 1–3–4–2
(d) 2–1–4–3

92. Consider the following indices :
1. Chandelier index
2. Sullivan's index
3. Waist-hip index
4. Ponderal index

Which of the above is/are used for measuring obesity?
(a) 1 and 3
(b) 2 and 4
(c) 3 and 4
(d) 3 only

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93. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I		**List-II**
A	Chlorination of water	1	Nitric acid test
B	Pasteurization of milk	2	Chemical oxygen demand test
C	Argemone with contamination of mustard oil	3	Orthotolidine test
D	Strength of sewage	4	Phosphatase test

Code :
(a) A B C D → 3 1 4 2
(b) A B C D → 2 1 4 3
(c) A B C D → 2 4 1 3
(d) A B C D → 3 4 1 2

94. Biochemical screening of newborn infants by heel-prick blood samples is performed by using the
(a) Tay-Sachs Card
(b) Duchenne Card
(c) Guthrie Card
(d) Maple Card

95. The maternal and child healthcare indicator that gives a good indication of the extent of pregnancy wastage as well as the quantity and quality of healthcare available to the mother and newborn is
(a) maternal mortality rate
(b) stillbirth rate
(c) infant mortality rate
(d) perinatal mortality rate

96. Which is the most common cause of mortality in infants between one and twelve months of age in India?
(a) Respiratory infection
(b) Diarrhoea
(c) Malaria
(d) Pre-maturity

97. The cut-off standard for defining low birth-weight babies in India is considered to be
(a) 1500 gm
(b) 2000 gm
(c) 2500 gm
(d) 2800 gm

98. Sentinel centre for vaccine-preventable diseases does not provide information on
(a) immunization
(b) place distribution
(c) time trend
(d) incidence rates

99. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Vaccine)		**List-II (Possible adverse effects)**
A	Oral polio	1	Persistent inconsolable screaming
B	BCG	2	Encephalopathy
C	Pertussis	3	Suppurative lymphadenitis
D	Measles	4	Paralysis

Code :
(a) A B C D → 2 1 3 4
(b) A B C D → 2 3 1 4
(c) A B C D → 4 3 1 2
(d) A B C D → 4 1 3 2

100. Which one of the following is an absolute contraindication for administration of killed vaccine?
(a) Pregnancy
(b) Immunodeficiency
(c) Hodgkin's disease
(d) Severe reaction to a previous dose

101. Which one of the following vaccines is a killed vaccine?
(a) Yellow fever vaccine
(b) Rubella vaccine
(c) Mumps vaccine
(d) Hepatitis B vaccine

102. Consider the following statements regarding Vaccine Vial Monitor (VVM) on the vial of oral polio vaccine:
The vaccine is not potent and should be discarded if
1. if the colour of the small square within the circle is lighter in colour than that of the circle
2. if the small square within the circle is the same colour as the circle
3. if the small square within the circle is darker in colour than the colour of the circle

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2
(c) 2 only
(d) 2 and 3

103. Effective disinfection of a typhoid patient's faecal matter can be done with
(a) 2% bleaching powder
(b) 2% phenol
(c) 5% cresol
(d) 5% formalin

104. What is the correct order of the steps in the rapid sand filtration process for water purification?
(a) Flocculation – alum mixing – sedimentation – filtration
(b) Sedimentation – alum mixing – flocculation – filtration
(c) Alum mixing – sedimentation – flocculation – filtration
(d) Alum mixing – flocculation – sedimentation – filtration

105. Consider the following drugs :
1. Rifampicin
2. Dapsone
3. Clofazimine
4. Minocycline

Which of the above drugs are used in the standard treatment of paucibacillary leprosy in adults?
(a) 1 and 2 only
(b) 1 and 4

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(c) 2, 3 and 4
(d) 1, 2 and 3

106. Consider the following hepatitis viruses :
1. Hepatitis A
2. Hepatitis B
3. Hepatitis C
4. Hepatitis E

Which of the above can be commonly transmitted through the faeco-oral route?
(a) 1 and 3 only
(b) 2, 3 and 4
(c) 1 and 4
(d) 1, 2 and 3

107. Which one of the following is the most important indicator for measuring the communicability of a disease?
(a) Primary attack rate
(b) Prevalent rate
(c) Secondary attack rate
(d) Incidence rate

108. Match List-I with List-II and select the correct answer using the code given below the Lists:

	List-I (Rickettsial diseases)		**List-II (Rickettsial agents)**
A	Epidemic typhus	1	Rickettsia conorii
B	Murine typhus	2	Rickettsia tsutsugamushi
C	Scrub typhus	3	Rickettsia prowazekii
D	Indian tick typhus	4	Rickettsia typhi

(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-4 C-2 D-1

109. Monitoring of blood pressure comes under
(a) primary prevention
(b) primordial prevention
(c) secondary prevention
(d) tertiary prevention

110. Which one of the following is an autosomal recessive disease?
(a) Cystic fibrosis
(b) Neurofibromatosis
(c) Retinitis pigmentosa
(d) Vitamin D resistant rickets

111. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Pneumo-coniosis)		**List-II (Occupation)**
A	Anthracosis	1	Textile industry
B	Byssinosis	2	Building and construction work
C	Bagassosis	3	Coal mining
D	Silicosis	4	Paper industry

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-1 C-4 D-2

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112. A series of meetings where individuals work within small groups to arrive at a plan of action for the problem under discussion is called as
(a) group discussion
(b) role play
(c) workshop
(d) focus groups

113. A child of 2 years having a respiratory rate of 46 per minute shall be classified by a health worker as
(a) very severe disease
(b) severe pneumonia
(c) pneumonia
(d) no pneumonia, cough or cold

114. Consider the following strategies pertaining to National Anti-Malaria Programme :
1. National Filaria Control Programme operational component merged with Urban Malaria Scheme.
2. Drug distribution centres collect slides and distribute anti-malaria tablets.

(c) cardiac output
(d) peripheral resistance of the blood vessels

42. Match List-I with List-II and select the correct answer using the code given below the Lists :

	List-I (Changes of pregnancy)		**List-II (Site of change)**
A	Jacquemier's sign	1	Breast
B	Chloasma gravidarum	2	Abdomen
C	Striae gravidarum	3	Uterus
D	Montgomery's tubercles	4	Vagina

Code :
(a) A B C D → 5 3 4 1
(b) A B C D → 4 2 1 3
(c) A B C D → 4 5 2 1
(d) A B C D → 3 5 2 4

43. If a patient of polycystic ovary syndrome on metformin conceives, how soon should the metformin be stopped?
(a) Immediately following the diagnosis of pregnancy
(b) After the 1st trimester
(c) After the 2nd trimester
(d) Before the onset of labour

44. With reference to the transmission of HIV from mother to child, which one of the following statements is not correct?
(a) The rate of transmission of HIV from mother to child is between 15–48%
(b) In majority of cases, transmission of virus occurs during intrapartum period
(c) Single dose of 200 mg of nevirapine at the onset of labour eliminates the risk of HIV transmission to the newborn
(d) HIV is transmitted through breast milk

45. Monoamniotic monochorionic twins develop when the division of cell mass occurs
(a) within 72 hours after fertilization
(b) between 4th and 8th day of fertilization
(c) after 8th day of fertilization
(d) after 2 weeks of development of embryonic disc

46. A pregnant woman presents at 28 weeks of gestation with haemoglobin level of 7 gm%; and peripheral smear reveals it to be of microcytic hypochromic type. What would be the correct option of therapy?
(a) Blood transfusion
(b) Oral iron therapy
(c) Injectable iron therapy
(d) Oral iron and folic acid therapy

47. Serum AFP (alpha fetoprotein) levels are increased at 16 weeks of pregnancy in all the following conditions, except
(a) gastroschisis
(b) neural tube defects
(c) multiple pregnancies
(d) Down's syndrome

48. The foetal well-being can be assessed by all of the following, except
(a) non-stress test
(b) contraction stress test
(c) ultrasound
(d) oxytocin sensitivity test

49. Match List-I with List-II and select the correct answer using the code given below the Lists:

	List-I (Pregnancy complications)		**List-II (Therapy)**
A	Anti-phospholipid syndrome	1	Intravenous immunoglobulins
B	Acute toxoplasmosis	2	Ursodeoxycholic acid
C	Unexplained pregnancy losses	3	Low-dose aspirin and heparin
D	Cholestatic jaundice	4	Spiramycin

Code:
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-3 B-4 C-1 D-2
(d) A-3 B-1 C-2 D-4

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PAPER 2010 ANSWERS

1. (b) it outgrows the wound area

A hypertrophic scar remains confined to the boundaries of the original wound and usually does not extend into the surrounding normal tissue. In contrast, a keloid grows beyond the borders of the initial injury. Hypertrophic scars, therefore, do not truly "outgrow the wound area." They can arise in any individual, are non-familial in most cases, and are not clearly tied to racial predilections. They may also arise over flexor surfaces but remain within the wound borders.

2. (b) A B C D → 3 1 4 2

Polymeric film dressings—like Opsite or Tegaderm—provide a protective barrier that is transparent, breathable, and impermeable to bacteria. Benzoyl benzoic acid has been used topically for various skin applications and can assist in debridement under certain formulations. Porcine skin or amnion is a biological membrane used as a temporary or biological dressing to aid wound healing. Vandase streptokinase (often with streptodornase) acts as an enzymatic agent to break down necrotic tissue or fibrin deposits, enhancing wound debridement.

3. (a) ER, PR hormone receptor negative tumour

Adjuvant radiotherapy is routinely considered when high-risk features are present, such as large tumor size (>5 cm), positive surgical margins, or extensive nodal involvement (more than four positive nodes). Hormone receptor status (ER/PR negativity) primarily guides hormonal therapy decisions rather than being, by itself, a standalone indication for postmastectomy radiation. While receptor negativity may correlate with a more aggressive tumor, the established protocols focus on locoregional control factors—tumor size, margins, and nodal spread—to decide on radiotherapy.

4. (d) tuberculoma

Langhans-type giant cells are typically found in granulomatous inflammation associated with tuberculosis (TB). These giant cells have a horseshoe arrangement of nuclei around the periphery, reflecting a specific type of granuloma formation. While foreign-body giant cells are also multinucleated, they usually show nuclei scattered haphazardly rather than in a horseshoe pattern. Lymphomas and typhoid lesions do not demonstrate these characteristic Langhans-type cells. Thus, their presence is classically diagnostic of tubercular granulomas, including tuberculomas.

5. (b) 15 lb pressure, 120 °C temperature for 15 minutes

Standard autoclaving parameters are 121 °C (often reached by 15 pounds per square inch of steam pressure above atmospheric) maintained for at least 15 minutes. This reliably kills bacteria (including their spores), fungi, and viruses, ensuring sterilization of surgical instruments and laboratory materials. Lower temperature or pressure and shorter times may not destroy heat-resistant spores, while higher settings are less common in routine practice. Adhering to 15 psi at around 120–121 °C for 15 minutes is the well-established protocol for effective sterilization.

6. (d) vomiting

PAIR (Puncture, Aspiration, Injection, Re-aspiration) therapy for hepatic hydatid cyst involves puncturing the cyst and injecting a scolicidal agent, which can trigger significant allergic or anaphylactic reactions if fluid leaks into the peritoneal cavity. Typical anaphylaxis features include urticaria (hives), hypotension (shock), and possible severe systemic reactions. Although nausea might occur, pronounced vomiting is not classically listed among the prime complications associated with hydatid fluid spillage. Anaphylactic shock manifestations more typically revolve around rash, hypotension, and respiratory compromise.

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7. (c) Metabolic alkalosis

Repeated vomiting causes the loss of gastric acid (hydrochloric acid), leading to a net decrease in hydrogen ions and chloride in the bloodstream. This loss drives the body toward a metabolic alkalotic state. The kidneys attempt to conserve chloride, and bicarbonate levels rise relative to hydrogen ions. Though there can be secondary changes such as volume contraction and electrolyte imbalances (like hypokalemia), the primary disturbance remains metabolic alkalosis due to the persistent removal of acid from the gastrointestinal tract.

8. (b) Aortoiliac occlusion

Claudication in the buttocks combined with erectile dysfunction (impotence) and a lower abdominal bruit is a classic triad called Leriche syndrome, typically caused by aortoiliac occlusive disease. The blockage occurs where the abdominal aorta bifurcates into the common iliac arteries. Patients may also have decreased or absent femoral pulses. Bilateral iliac or femoropopliteal occlusions do not commonly present with this triad of buttock claudication and impotence; rather, aortoiliac disease strongly correlates with these specific symptoms and physical findings.

9. (b) primary varicose veins

The Trendelenburg operation (or Trendelenburg test in older texts) traditionally involves ligation of the great saphenous vein at the saphenofemoral junction to correct the reflux responsible for primary varicose veins. By eliminating the incompetent valve or segment, it reduces venous hypertension and the protrusion of tortuous superficial veins. This procedure is not a remedy for varicocele, deep vein thrombosis, or arteriovenous fistulas. It is specifically employed to address significant superficial venous insufficiency seen in primary varicose veins.

10. (b) some degree of arterial obstruction

An ankle-brachial pressure index (ABPI) compares the blood pressure in the ankle arteries to that in the brachial artery. A normal ABPI is around 1.0–1.4, indicating similar or slightly higher pressures at the ankle than in the arm. An ABPI of 0.8 usually points to mild-to-moderate peripheral arterial disease, signifying partial blockage or narrowing of the leg arteries. Lower values (e.g., <0.5) suggest severe arterial compromise and a higher risk of ischemic complications, whereas values above 1.4 may indicate noncompressible arteries.

11. (b) salivary glands

Acinic cell carcinoma is a rare type of malignancy that originates primarily in the salivary glands, particularly in the parotid gland. It arises from the acinar cells that produce saliva. This tumor often presents as a slow-growing mass in the parotid region. It is distinct from other salivary gland tumors like mucoepidermoid carcinoma or adenoid cystic carcinoma. It does not commonly occur in the thyroid, breast, or stomach. Hence, salivary gland involvement is the hallmark of acinic cell carcinoma.

12. (d) medullary carcinoma of thyroid

Medullary carcinoma of the thyroid (MCT) originates from parafollicular C cells, which produce calcitonin. Elevated serum calcitonin is a hallmark of this malignancy and is used both for diagnosis and monitoring of treatment response or recurrence. Islet cell tumors of the pancreas secrete insulin or glucagon, choriocarcinoma produces human chorionic gonadotropin (hCG), and carcinoid tumors often secrete serotonin or other vasoactive substances. Only MCT is consistently associated with a marked rise in calcitonin levels.

13. (c) Pectoral muscle involvement

According to standard breast cancer staging, T4 disease includes tumor extension to the skin (e.g., ulceration, Peau d'orange) or to the chest wall, which specifically comprises the ribs, intercostal muscles, and serratus anterior. Notably, involvement of only the pectoralis major muscle does not qualify as chest wall invasion and therefore does not upstage the tumor's T classification. Hence, while skin changes or serratus anterior muscle involvement alters the T stage, pectoral muscle involvement does not.

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43. (b) After the 1st trimester

Metformin is often used in polycystic ovary syndrome (PCOS) to improve insulin sensitivity and increase fertility. Once pregnancy is achieved, many guidelines suggest continuing metformin at least through the first trimester, partly to decrease the risk of early miscarriage and excessive hyperglycemia. After organogenesis and the first trimester, many clinicians discontinue metformin unless there is a coexisting indication (such as gestational diabetes needing further glycemic control). Stopping it immediately on pregnancy confirmation is not standard practice.

44. (c) Single dose of 200 mg of nevirapine at the onset of labour eliminates the risk of HIV transmission to the newborn

Although a single intrapartum dose of nevirapine significantly lowers the mother-to-child transmission risk of HIV, it does not eliminate it. Transmission can occur antepartum, intrapartum, or postpartum (via breastfeeding). The overall baseline risk without treatment ranges roughly between 15–40+%, and the intrapartum period remains a major window for viral passage. Breast milk also can transmit the virus. Hence, claiming "elimination" of risk by that single dose is inaccurate, making (c) the incorrect statement.

45. (c) after 8th day of fertilization

Twin type depends on the timing of zygotic division. If splitting happens within the first 3 days, twins are dichorionic-diamniotic. Division between days 4–8 results in monochorionic-diamniotic twins. Beyond day 8 (roughly days 8–12), the twins become monochorionic-monoamniotic because the amnion forms before the division is complete. Splitting after roughly day 13 can lead to conjoined twins. Therefore, monoamniotic, monochorionic twins arise when the embryonic split occurs after day 8 post-fertilization.

46. (d) Oral iron and folic acid therapy

In a stable pregnant woman of 28 weeks' gestation who is found to have iron-deficiency anemia (microcytic, hypochromic picture) with an Hb of about 7 g/dL, the standard first-line approach is to institute combined oral iron and folic acid supplementation. This helps replenish iron stores and support ongoing high fetal demands. Blood transfusion or IV iron may be reserved for symptomatic patients (e.g., cardiovascular compromise) or those who cannot tolerate or absorb oral iron. Hence, oral iron plus folic acid is usually correct first.

47. (d) Down's syndrome

Alpha-fetoprotein is typically elevated in conditions where fetal or placental tissue is exposed or overproduced, as with neural tube defects (e.g., spina bifida), ventral wall defects (e.g., gastroschisis), or multiple gestations (simply more fetal tissue). In Down's syndrome (Trisomy 21), maternal serum AFP is usually decreased rather than elevated. Thus, among the listed conditions, Down's syndrome is the one in which AFP tends to be lower, making it the correct "exception."

48. (d) oxytocin sensitivity test

Common tests for assessing fetal well-being include the non-stress test (NST), the contraction stress test (CST), and ultrasound-based assessments such as the biophysical profile (BPP). The "oxytocin sensitivity test" is sometimes used synonymously with the contraction stress test, but generally, standard practice refers to the CST when evaluating fetal heart rate responses to induced contractions. In many modern protocols, "oxytocin sensitivity test" is not separately performed for fetal well-being assessment. Hence, (d) is generally excluded from the classic list.

49. (c) A-3 B-4 C-1 D-2

1. A → 3 (Antiphospholipid syndrome → Low-dose aspirin and heparin)
2. B → 4 (Acute toxoplasmosis → Spiramycin)
3. C → 1 (Unexplained pregnancy losses → Intravenous immunoglobulins, sometimes used)
4. D → 2 (Cholestatic jaundice → Ursodeoxycholic acid)

Hence: A B C D → 3, 4, 1, 2

Antiphospholipid syndrome is managed with low-dose aspirin plus heparin to reduce

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specific syndrome, but classically they are not considered direct, highly premalignant lesions like adenomatous polyps or chronic ulcerative colitis. Therefore, among the listed options, hamartomatous polyps are the least classically described as a direct premalignant condition for colon cancer.

22. (b) aberrant right subclavian artery

Dysphagia lusoria is difficulty swallowing caused by a developmental vascular anomaly—specifically an aberrant right subclavian artery that arises from the descending aorta instead of the brachiocephalic trunk. This aberrant vessel often passes posterior to the esophagus, compressing it and producing dysphagia. Esophageal atresia and webs also cause swallowing difficulties, but they do not involve vascular compression, while corrosive stricture results from chemical injury to the esophageal mucosa.

23. (a) Billroth-II operation

Dumping syndrome frequently occurs after gastric resections or bypass procedures when part of the stomach is removed and a gastrojejunostomy is created (e.g., Billroth II). The reduced reservoir capacity and altered pyloric function cause a rapid entry of hyperosmolar food into the small intestine, drawing fluid into the lumen and leading to vasomotor and GI symptoms. Heller's operation (for achalasia), Whipple's (pancreaticoduodenectomy), and Nissen fundoplication (anti-reflux procedure) are less associated with classical dumping syndrome.

24. (c) Tracheo-oesophageal fistula

The VACTER (or VACTERL) association stands for Vertebral defects, Anorectal malformations, Cardiac anomalies, Tracheo-Esophageal fistula, Renal anomalies, and Limb abnormalities. "TE" specifically denotes the presence of tracheo-esophageal fistula, wherein there is an abnormal connection between the esophagus and trachea, often accompanying esophageal atresia. Tetralogy of Fallot is a cardiac anomaly but not what "TE" signifies in this acronym.

25. (b) 1, 2 and 3

A Le Fort I fracture is a horizontal maxillary fracture that separates the alveolar process (upper teeth and palate) from the rest of the facial skeleton. It typically traverses the region of the pyriform aperture and extends posteriorly through the pterygoid plates. Involvement of the orbit, however, is characteristic of Le Fort II or III fractures, not Le Fort I. Thus, statements 1, 2, and 3 apply, whereas statement 4 does not.

26. (a) Immediate repair of the lip

Cleft lip repair is typically done by around three months of age (often following the "rule of 10s": 10 weeks of age, 10 pounds weight, and hemoglobin near 10 g/dL). Palate repair usually follows several months later (often around 9–12 months), to allow for better growth and reduce speech difficulties. Combined immediate lip and palate repair is generally not favored; instead, the lip is addressed first, with palate closure delayed to optimize feeding, speech, and facial growth.

27. (c) hyperparathyroidism

Osteitis fibrosa cystica (also known as von Recklinghausen's disease of bone) is characterized by excessive osteoclastic activity leading to bone resorption, cystic lesions, and "brown tumors." It typically arises from primary hyperparathyroidism, where elevated parathyroid hormone (PTH) results in hypercalcemia and marked bone turnover. Hyperthyroidism, milk-alkali syndrome, and rickets do not produce this particular pattern of cystic bone change and subperiosteal resorption that is pathognomonic of high PTH states.

28. (a) Colles' fracture

A Colles' fracture is a distal radius fracture with dorsal angulation, commonly occurring from a "FOOSH" (fall on outstretched hand), particularly in elderly patients with osteoporosis. In a 65-year-old, weakened bone structure often predisposes to this type of distal forearm fracture rather than supracondylar humerus fractures (more typical in children) or shoulder dislocations. Fractures of the metacarpals can happen but are generally less frequent among

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14. (d) tumours with over-expressed C-erb B-2 protein

Herceptin (trastuzumab) targets the HER2/neu (also called c-erbB2) receptor, a transmembrane tyrosine kinase found on certain breast cancer cells. Over-expression or amplification of the HER2 gene correlates with a more aggressive tumor phenotype. HER2+ patients benefit significantly from trastuzumab-based therapy, which blocks signaling pathways driving tumor growth. Estrogen or progesterone receptor positivity (ER/PR) involves hormonal therapies (e.g., tamoxifen), while Ki-67 is a proliferation marker but does not determine indication for Herceptin.

15. (c) gallstone ileus

Pneumobilia is the presence of air within the biliary tree. One classic cause is gallstone ileus, where a gallstone erodes from the gallbladder into the intestinal tract, forming a cholecystoenteric fistula (usually to the duodenum). This abnormal connection allows air from the intestine to pass into the biliary system. Mirizzi's syndrome, acute pancreatitis, and gallbladder carcinoma do not routinely produce free air in the biliary tree.

16. (c) Vomiting

Charcot's triad is classically described in acute cholangitis and consists of right upper quadrant abdominal pain, fever (often with chills), and jaundice. These three symptoms arise from biliary obstruction and associated infection. Although nausea and vomiting may occur in biliary or hepatic pathology, "vomiting" is not a formal component of Charcot's triad. Hence, (c) is excluded from the classic triad.

17. (a) periampullary carcinoma

The "double duct" sign refers to simultaneous dilatation of both the common bile duct and the main pancreatic duct, usually visible on imaging (MRCP, ERCP, or sometimes ultrasound/CT). A lesion in the ampullary region (periampullary carcinoma or carcinoma of the head of the pancreas near the ampulla) can obstruct both ducts. Klatskin's tumor occurs at the confluence of intrahepatic bile ducts (hilar cholangiocarcinoma) and does not typically cause a "double duct" sign with the pancreatic duct.

18. (a) A B C D → 3 4 1 2

Viral hepatitis (A) is caused by hepatitis viruses (A, B, C, etc.) → 3

1. Amoebic liver abscess (B) is produced by Entamoeba histolytica → 4
2. Ascending cholangitis (C) typically involves infection by enteric bacteria such as E. coli → 1
3. Hydatid liver disease (D) is caused by Echinococcus granulosus → 2

Hence the correct matching is 3, 4, 1, 2 in that order.

19. (c) Inguinal hernia

Although femoral hernias occur more frequently in females than in males, the single most common type of hernia in women overall remains the inguinal hernia (as it is in men). In general population statistics, indirect inguinal hernias outnumber other hernia subtypes. Femoral hernias are significant in females because they carry a higher risk of strangulation, but they do not surpass inguinal hernias in sheer prevalence.

20. (b) 1 and 3 only

Ileocolic intussusception often gives a "claw sign" (or "coiled spring sign") on contrast imaging like a barium enema. Additionally, plain abdominal X-ray may reveal multiple air-fluid levels with the absence of gas in the cecum, suggestive of obstruction. The "apple core" sign (2) typically denotes an annular colonic carcinoma. A single large fluid and air level (4) is more indicative of gastric dilation or a massive single viscus obstruction rather than typical findings of intussusception.

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21. (d) Hamartomatous polyps

Familial adenomatous polyposis (FAP), villous adenomas, and ulcerative colitis are all well-recognized precursors for colon cancer. Hamartomatous polyps (e.g., juvenile polyps, Peutz-Jeghers polyps) may carry some increased risk of malignancy depending on the

36. (d) 1, 2 and 3

All three statements accurately reflect scalp anatomy. The scalp is classically described by the mnemonic SCALP (Skin, dense Connective tissue, Aponeurosis, Loose areolar tissue, Pericranium). Its blood vessels do indeed run in the dense connective tissue layer, making scalp lacerations bleed profusely. The anterior region is supplied by the supraorbital and supratrochlear arteries (branches of the ophthalmic artery), while the lateral and posterior areas are supplied by branches of the external carotid: superficial temporal, posterior auricular, and occipital arteries.

37. (a) A B C D → 4 3 2 1

1. Hamartoma (A) can lead to lymphatic cysts (4), as in lymphangiomas (anomalous overgrowth of normal tissues).
2. Failure of tubular connections (B) in renal development causes polycystic kidney disease (3).
3. Persistence of normal vestigial embryologic structures (C) commonly leads to a urachal cyst (2) if the allantois fails to obliterate.
4. Duplication (D) along the gastrointestinal tract forms enterogenous cysts (1).

Hence the matching sequence is 4, 3, 2, 1.

38. (c) Congenital hypertrophic pyloric stenosis

In infants around 2–8 weeks old, congenital hypertrophic pyloric stenosis is the classic cause of gastric outlet obstruction, presenting with projectile, non-bilious vomiting. The hypertrophied pylorus impedes gastric emptying. Annular pancreas and duodenal atresia typically manifest earlier (often with bilious vomiting if obstruction is distal to the ampulla of Vater), while a foreign body is uncommon in a 4-week-old. Thus, pyloric stenosis remains the most frequent diagnosis for this age with these symptoms.

39. (b) Adamantinoma

In jaw tumors, a "soap bubble" or "honeycomb" radiolucent appearance on X-ray is classically associated with ameloblastoma. Historically, the term "adamantinoma" has also been used for this odontogenic tumor. It often arises in the mandible's ramus region, causing painless expansion. Aneurysmal bone cysts can create a multiloculated "blow-out" appearance, but ameloblastomas (adamantinomas) are the classic teaching for "soap bubble" lesions in the mandible. Keratocysts and myxomas also appear radiolucent but often lack the characteristic multicystic "bubble" expansion.

40. (a) vein of Mayo

The vein of Mayo (also called the prepyloric vein) is a small vein running along the lesser curvature of the stomach near the pylorus. Surgeons often use it as a landmark for locating the gastroduodenal junction during procedures. The hepatoduodenal ligament (which contains the portal triad), the gastroduodenal artery, and the incisura angularis (on the lesser curvature more proximally) are different anatomical landmarks and do not specifically mark the precise stomach–duodenum transition as does the vein of Mayo.

41. (c) cardiac output

During pregnancy, cardiac output rises by 30–50% to meet the increased metabolic demands and uteroplacental circulation. Blood pressure may slightly decrease in the second trimester and normalizes or mildly rises later, but it is not consistently higher than non-pregnant levels in a healthy pregnancy. Peripheral vascular resistance actually falls because of hormonal influences (e.g., progesterone, relaxin), and blood viscosity may decrease slightly due to expanded plasma volume. Thus, the classic, consistent finding is increased cardiac output.

42. (c) A B C D → 4 5 2 1

1. Jacquemier's sign (A) is a bluish discoloration of the vulva/vagina → (4).
2. Chloasma or melasma gravidarum (B) typically appears as hyperpigmentation on the face → (5).
3. Striae gravidarum (C) are stretch marks on the expanding abdomen → (2).
4. Montgomery's tubercles (D) are sebaceous gland enlargements in the areola of the breast → (1).

Hence A → 4, B → 5, C → 2, D → 1.

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older adults who experience a typical FOOSH mechanism.

29. (b) 4th week

The respiratory diverticulum (lung bud) first appears as an outgrowth from the ventral wall of the foregut around the fourth week of embryonic development. It subsequently branches to form the trachea, bronchi, and ultimately the lungs. While other key developmental milestones occur in weeks 3–6, the initial lung bud formation specifically characterizes the fourth week.

30. (d) Tetralogy of Fallot

Tetralogy of Fallot (TOF) is classically categorized among cyanotic congenital heart diseases because it involves right-to-left shunting through a ventricular septal defect due to infundibular pulmonic stenosis. This causes deoxygenated blood to enter systemic circulation, leading to cyanosis. Patent ductus arteriosus, atrial septal defect, and isolated VSD typically cause left-to-right shunts (acyanotic lesions) unless they become reversed (Eisenmenger's syndrome), which is not their usual presentation at birth.

31. (c) 2, 3 and 4 only

In blunt chest trauma, emergency (often "urgent") thoracotomy is indicated for massive hemothorax (≥1 L immediate drainage or ongoing major bleeding), cardiac tamponade, or major thoracic structural injuries such as esophageal rupture. Each of these can be rapidly fatal if not surgically addressed. Flail chest alone is managed primarily with adequate ventilation and pain control; it is not by itself an absolute indication for thoracotomy. By contrast, large-volume blood loss, tamponade, and esophageal disruption typically warrant emergent surgical intervention.

32. (b) rupture of bulbar urethra

Straddle injuries typically impact the bulbar urethra in the perineum. The bulbar portion is vulnerable to direct trauma against the pubic bone or a penetrating object. Membranous urethral rupture more often occurs with pelvic fractures, and bladder ruptures (intra- or extraperitoneal) generally present differently (e.g., inability to void, suprapubic tenderness, hematuria without a classic straddle mechanism). In this scenario—perineal hematoma, bleeding from the meatus, and urinary retention—rupture of the bulbar urethra is the classic diagnosis.

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33. (b) surgery

Renal cell carcinoma (RCC) can metastasize hematogenously, often to the lungs. In patients who present with a solitary pulmonary metastasis, surgical resection of both the primary kidney tumor (nephrectomy) and the isolated lung metastasis (metastasectomy) can significantly prolong survival and may even lead to long-term remission. Radiotherapy and chemotherapy have limited efficacy in RCC, while immunotherapy plays a role in more advanced or multiple metastatic disease. However, for a single lung met, surgery is the preferred approach.

34. (c) leukaemia

Priapism is a persistent, often painful erection unrelated to sexual stimulation. In younger males, causes include hematologic disorders such as sickle cell disease and leukemia (particularly chronic or acute leukemias with high white cell counts). The hyperviscosity and infiltration of leukemic blasts can impair penile venous outflow. Other tumors, such as carcinoid or testicular cancers, are not common causes of priapism. Penile cancer typically presents with a lesion on the penis rather than persistent erections.

35. (b) Laryngeal diphtheria

Historically, one of the common pediatric indications for tracheostomy was airway obstruction secondary to laryngeal diphtheria (croup caused by Corynebacterium diphtheriae). Although now much less common in places where vaccination is widespread, diphtheria remains a classic cause of airway compromise in children requiring an urgent tracheostomy. Carcinoma of the larynx is extremely rare in this age group, vocal cord paralysis can sometimes be managed less invasively, and poliomyelitis typically demands ventilatory support but not necessarily a tracheostomy.

thrombotic risks. Acute toxoplasmosis is classically treated with spiramycin to decrease vertical transmission. When pregnancy losses are truly unexplained (and recurrent), IV immunoglobulins may be attempted. Intrahepatic cholestasis of pregnancy often responds to ursodeoxycholic acid, which alleviates pruritus and improves liver function markers.

50. (b) Ovarian pregnancy

Spiegelberg's criteria are specifically used to diagnose a primary ovarian ectopic pregnancy. They stipulate that the gestational sac must be located in the region of the ovary, the ectopic pregnancy is connected to the uterus by the ovarian ligament, ovarian tissue must be present within the sac wall, and the tube must be intact, excluding tubal involvement. Thus, among the listed options, "ovarian pregnancy" is the condition diagnosed by these classical criteria.

51. (a) Quick resuscitation followed by laparotomy and excision of the offending tube

A ruptured tubal ectopic pregnancy presents as a surgical emergency due to intraperitoneal hemorrhage. The priorities are rapid resuscitation to stabilize the patient and immediate laparotomy (or laparoscopy in some centers) to stop bleeding and remove the ectopic—typically by salpingectomy. While blood transfusion may be part of resuscitation, the definitive management is prompt surgical intervention. Salpingo-oophorectomy is usually not required unless the ovary is also severely damaged. Autotransfusion of peritoneal blood is rarely used in modern practice.

52. (b) Cytomegalovirus

Among the congenital infections, cytomegalovirus (CMV) is the most frequent viral agent causing intrauterine infection worldwide. While rubella, herpes simplex, and HIV can also infect the fetus, CMV surpasses them in incidence. Congenital CMV can lead to hearing loss, neurodevelopmental issues, and other sequelae if the mother acquires primary infection or reactivation during pregnancy. Routine screening is not universally done, but CMV remains the leading congenital viral infection.

53. (b) congenital anomalies of the uterus

Second-trimester losses are often linked to structural or cervical factors rather than the typical chromosomal or fetal anomalies more associated with first-trimester miscarriages. Congenital uterine anomalies (e.g., bicornuate or septate uterus) can lead to poor support for the pregnancy, cervical insufficiency, and mid-trimester abortion. While fetal anomalies or hormonal issues may also contribute, uterine malformations are a well-recognized common cause of recurrent second-trimester losses.

54. (c) early decelerations

Early decelerations are typically benign and mirror the uterine contraction, primarily due to fetal head compression. They are not considered pathological. By contrast, persistent bradycardia (<120 bpm for ≥15 minutes), significant tachycardia (>170 bpm for ≥15 minutes), and late decelerations (which suggest uteroplacental insufficiency) are abnormal findings on electronic fetal monitoring. Thus, early decelerations do not usually signify fetal compromise, making option (c) the "except" among otherwise abnormal patterns.

55. (b) atonic PPH

The B-Lynch suture (brace suture) is a conservative surgical technique used to control bleeding in uterine atony (postpartum hemorrhage) when medical management fails. It compresses the uterus and can preserve fertility by avoiding hysterectomy. It is not indicated for incompetent cervix (which uses a cervical cerclage) or for placenta praevia bleeding specifically if the uterus is well-contracted. Ruptured uterus demands repair or hysterectomy. Hence, B-Lynch stitch is specifically for atonic postpartum hemorrhage control.

56. (b) Decapitation and delivering the baby vaginally

In obstructed or neglected transverse lie with a prolapsed arm and a confirmed intrauterine fetal

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demise, destructive operations are sometimes employed to avoid major surgery when the mother's pelvis is adequate. Decapitation (or similar destructive procedures) reduce the fetal bulk and enable vaginal delivery. External or internal version is contraindicated given the prolonged labor, absent fetal heart sounds, and advanced obstructed state. A caesarean could be avoided in this scenario since the fetus is already demised.

57. (a) It can be applied when the cervix is incompletely dilated

For a vacuum (ventouse) extraction, the cervix must be fully dilated, the fetal head engaged, and the position known to reduce maternal and fetal complications. Placing the suction cup off-center or applying it before full dilation is contraindicated. Using a sufficiently large cup placed centrally on the flexion point and not exceeding recommended negative pressure (about 0.8 kg/cm^2) are all correct guidelines. Hence, statement (a) is not correct.

58. (c) obstructed labour

A pathological retraction ring (Bandl's ring) visible or palpable between the contracting upper uterine segment and the thinned, distended lower uterine segment is a classic sign of obstructed labour. It reflects that strong uterine contractions are futilely trying to expel the fetus against a mechanical obstruction (cephalopelvic disproportion or malpresentation) or an undilated passage. If not relieved, it can lead to uterine rupture. It does not merely represent prolonged labor or cervical dystocia.

59. (d) carcinoma cervix

Elective cesarean sections are generally performed for clear obstetric indications such as placenta praevia (risk of hemorrhage), cephalopelvic disproportion (baby's head is too large or pelvis is too small), or a prior lower segment caesarean where VBAC might be contraindicated. By contrast, carcinoma of the cervix is not typically managed by elective C-section; the approach to cervical cancer in pregnancy depends on tumor stage and gestational age, but an immediate cesarean solely for cervical cancer is not a standard indication.

60. (c) A B C D → 2, 1, 4, 3

Pinard's manoeuvre frees and delivers the breech legs (especially if extended) by flexing and sweeping them down. Lovset's manoeuvre addresses delivery of extended arms in a breech. Mauriceau-Smellie-Veit manoeuvre is used to deliver the after-coming head of a breech infant, by supporting the body on the forearm and flexing the head. External cephalic version, meanwhile, is an antepartum attempt to rotate a breech fetus to head-first presentation.

61. (c) 1, 2 and 3

After delivery of the placenta, there is a sudden drop in circulating estrogen and progesterone, which removes the inhibitory effect on milk production. Prolactin-inhibiting factor (largely dopamine) is also reduced, further enabling prolactin release from the anterior pituitary. Prolactin then stimulates milk secretion (lactogenesis). Oxytocin (from the posterior pituitary) is more directly responsible for the milk ejection (let-down) reflex rather than initiation of milk production. Thus, items 1, 2, and 3 chiefly initiate lactation.

62. (c) Turner's syndrome

Turner's syndrome (45,X) arises from complete or partial monosomy of the X chromosome. Affected individuals are phenotypic females, often presenting with short stature, streak gonads, and lack of pubertal development, among other features. Adrenogenital syndrome (congenital adrenal hyperplasia) involves enzyme defects in steroidogenesis, testicular feminization (androgen insensitivity) is a 46,XY disorder, and Klinefelter's syndrome is characterized by an extra X chromosome in males (47,XXY). Thus, only Turner's syndrome is caused by X-chromosome monosomy.

63. (b) 11·5 cm

The "true conjugate" (anatomical conjugate) is the distance from the sacral promontory to the upper border of the pubic symphysis and is approximately 11 to 11.5 cm. Different pelvic measurements include the obstetric conjugate

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(10.5 cm) and diagonal conjugate (12.5–13 cm). The figure often taught is about 11 cm, though some references indicate 11.5 cm for the true conjugate. Among the provided options, 11.5 cm best represents the typical average measure.

64. (b) 2 : 1

In the prepubertal uterus, the cervix is disproportionately larger relative to the uterine body. Roughly, the cervix constitutes about two-thirds of the total uterine length, while the uterine body occupies about one-third. Thus, the cervical length : uterine body ratio is around 2 : 1. After puberty, under the influence of estrogen, the uterine corpus grows more substantially, reversing the ratio and making the adult uterus predominantly body.

65. (c) two arteries and one vein

Under normal circumstances, the umbilical cord has two arteries (carrying deoxygenated blood from fetus to placenta) and one vein (returning oxygen-rich blood from placenta to fetus). Occasionally, a single umbilical artery is found (associated with certain fetal anomalies), but the normal configuration is "two arteries, one vein." This arrangement ensures proper fetoplacental circulation until birth.

66. (a) A B C D → 3 1 2 4

1. Descent of the upper two-thirds of the anterior vaginal wall (A) typically involves the bladder → cystocele (3).
2. Descent of the lower one-third of the anterior vaginal wall (B) often involves the urethra → urethrocele (1).
3. Descent of the upper one-third of the posterior vaginal wall (C) permits small bowel or peritoneal pouch to herniate → enterocele (2).
4. Descent of the lower two-thirds of the posterior vaginal wall (D) involves the rectum → rectocele (4).

67. (d) through its anti-estrogenic effect

Clomiphene citrate functions primarily as a selective estrogen receptor modulator (SERM) that blocks estrogen receptors in the hypothalamus. This "anti-estrogenic" action decreases normal negative feedback, prompting increased release of gonadotropin-releasing hormone (GnRH), which in turn elevates follicle-stimulating hormone (FSH) and luteinizing hormone (LH) secretion by the pituitary. The resulting surge of FSH/LH stimulates the ovaries to develop and ovulate. Thus, the key mechanism is antagonizing estrogen feedback at the hypothalamus.

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68. (c) Category III

In the older RNTCP (Revised National Tuberculosis Control Programme) regimen, Category III typically includes new, less severe forms of extrapulmonary tuberculosis (EPTB). Asymptomatic endometrial TB diagnosed as a new EPTB case—especially found in the infertility workup—would generally be placed under Category III (short-course chemotherapy for new EPTB with minimal involvement). Category I is new pulmonary TB (sputum-positive or serious sputum-negative), Category II is for retreatment, and Category IV addresses multidrug-resistant TB.

69. (a) Granuloma inguinale

Granuloma inguinale (donovanosis), caused by Klebsiella granulomatis, typically presents as a painless, progressive ulcerative lesion on the genitals without significant lymphadenopathy. Chancroid (by Haemophilus ducreyi) produces a painful ulcer, lymphogranuloma venereum can present with tender lymphadenopathy, and herpes simplex typically presents with painful vesicular or ulcerative lesions. Hence, among the listed infections, granuloma inguinale is the classic painless genital ulcer.

70. (c) First and last seven days

With a typical 28-day cycle, ovulation commonly occurs around day 14. Sperm can survive for up to 5 days, and the ovum can be fertilized within about 24 hours of release. Hence, the fertile window spans roughly day 10–day 17. The "safe period" for natural family planning is generally the first 7 days and the last 7 days of the cycle—assuming strict regularity—because these times lie outside the main window of ovulatory fertility.

71. (a) Inhibin

Granulosa cell tumors are sex cord–stromal tumors of the ovary that characteristically secrete estrogen and are associated with elevated serum inhibin levels. Alpha-fetoprotein (AFP) and beta-hCG are typically elevated in germ cell tumors (like endodermal sinus tumors or choriocarcinoma, respectively). CA 125 is often associated with epithelial ovarian malignancies. Therefore, inhibin is the specific tumor marker most commonly elevated in granulosa cell tumors.

72. (a) 1%

Endometrial hyperplasia without atypical changes generally has a low malignant potential. Simple hyperplasia without atypia carries approximately a 1% risk of progression to endometrial carcinoma if left untreated. In contrast, complex hyperplasia with atypia can have a risk of progression greater than 25%. Therefore, the presence or absence of cytological atypia is the key driver in predicting the chance of malignant transformation.

73. (b) Copper T-380

The Copper T-380A (sometimes simply referred to as Copper T-380) is recommended by many national and international family planning programs due to its long-term efficacy (up to 10 years) and relative ease of insertion. It has a higher copper surface area than older models like T-200 or Copper-7, improving contraceptive effectiveness. GyneFix (frameless device) is less widely used. Thus, Copper T-380 remains the most popular and extensively utilized copper-bearing IUD worldwide.

74. (d) bronchial asthma

Major contraindications for combined oral contraceptives (COCs) include current breastfeeding under six weeks postpartum (because of possible interference with lactation and increased clot risk), personal history of thromboembolism or thrombogenic mutations, active liver disease (including viral hepatitis), and certain cardiovascular risk factors. Bronchial asthma is not considered a typical contraindication to COCs. While caution is always advised in certain medical conditions, asthma alone does not exclude a woman from safely using combined pills.

75. (a) first day of the cycle

Progestin-only pills (the "mini pill") are ideally started on day 1 of the menstrual cycle or immediately postpartum (if no contraindications) to ensure contraceptive effectiveness from the outset. Some guidelines allow starting within the first five days of menses, but day 1 is the standard recommendation for simplicity and immediate coverage. Delaying until days 2–5 often requires a backup contraceptive method for at least 48 hours. By contrast, combined pills often start on day 1 or day 5.

76. (c) Mifepristone – Misoprostol – Bleeding – USG

Medical termination of early pregnancy typically follows this order: an anti-progesterone agent (mifepristone) is given first to block progesterone's support of the pregnancy. After a recommended interval (24–48 hours), misoprostol (a prostaglandin) is administered to induce uterine contractions and cervical dilation, leading to bleeding and expulsion of the products of conception. Finally, an ultrasound scan confirms completeness of abortion. Hence, the usual timeline is mifepristone → misoprostol → bleeding → follow-up ultrasound.

77. (d) Iron sucrose

Iron dextran and some older parenteral formulations (e.g. high-molecular-weight iron dextran, iron sorbitol) have been associated with significant risks of anaphylactic reactions. Iron fumarate is typically used in oral preparations rather than standard IV therapy. Iron sucrose, on the other hand, is known to have a much lower risk of anaphylaxis and is commonly used intravenously to treat iron deficiency anemia. Hence, among the listed choices, iron sucrose best fits the criterion of not causing anaphylaxis.

78. (d) mifepristone

GnRH analogues suppress sex hormone production (especially estrogen), promoting bone resorption and thus increasing osteoporosis risk over time. Danazol, used in endometriosis,

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also lowers estrogen levels sufficiently to impact bone density adversely. Long-term corticosteroid use is a classic contributor to osteoporosis via effects on bone remodeling and calcium metabolism. Mifepristone (an anti-progesterone with some anti-glucocorticoid effect) is not routinely linked to significant bone density loss in typical clinical use. Hence, among the options, mifepristone is the "exception."

79. (d) 1·5% glycine

When performing hysteroscopic surgery with monopolar electrocautery, a non-conductive, electrolyte-free distension medium is required to avoid current dispersion. 1.5% glycine solution is commonly chosen because it is hypotonic, provides good visualization, and does not conduct electricity significantly. Normal saline and 5% dextrose saline conduct current and thus are preferred in bipolar electrocautery setups, not conventional monopolar. CO_2 can be used for diagnostic hysteroscopy but is less common for operative procedures involving cautery.

80. (b) cryptomenorrhoea

Primary amenorrhea with cyclical lower abdominal pain and a palpable midline "mass" extending to or above the pubis suggests menstrual blood accumulation unable to exit the uterus/vagina—i.e., cryptomenorrhea. Common causes include imperforate hymen or a transverse vaginal septum. The uterus distends over time, leading to the felt suprapubic swelling. Ovarian cysts or bladder causes would not typically present with clear cyclical (periodic) pain. Leiomyomas are rarer in such a young patient presenting with classic obstructive amenorrhea symptoms.

81. (c) A B C D → 3 1 2 4

1. A (Morbidity indicator) → "Attendance rates at OPD" (3) – a proxy measure of disease frequency in the community
2. B (Socio-economic indicator) → "Dependency ratio" (1) – compares non-working to working population
3. C (Healthcare delivery indicator) → "Bed-occupancy rate" (2) – how many beds are occupied, reflecting service usage
4. D (Utilization rates) → "Population-bed ratio" (4) – shows resource availability (beds) for the population

Hence the matching sequence is 3, 1, 2, 4.

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82. (b) Immunization against diseases

Winslow's classic definition of public health emphasizes "the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts." While immunization is certainly an important public-health measure, the wording of Winslow's original statement broadly refers to "control of communicable infections" rather than specifying immunization per se. The direct mention of "immunization against diseases" does not appear explicitly in Winslow's definition. Therefore, among the listed concepts, option (b) is not stated verbatim.

83. (b) 10

Relative Risk (RR) = Incidence in exposed group / Incidence in non-exposed group.
Incidence among smokers = 50 / 5000 = 1%
Incidence among non-smokers = 10 / 10000 = 0.1%
RR = 1.0% ÷ 0.1% = 10.
Hence, smokers in this study have a 10-fold higher risk of lung cancer compared to non-smokers.
Subject: Epidemiology / Biostatistics

84. (c) Spurious Association

A spurious association is one in which the observed link does not reflect a true causal relationship but rather arises from confounding or selection biases. In this example, high-risk pregnancies or complicated labors may be preferentially referred to hospitals, artificially inflating hospital perinatal mortality statistics. The "higher hospital mortality" is not because hospitals cause worse outcomes, but rather because they handle more complex cases. This makes the association appear real but is actually confounded and thus spurious.

85. (b) High risk selective screening

For detecting cervical cancer effectively in resource-limited settings, targeting high-risk

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1. Which of the following is a scoring system for severity of wound infection, and is particularly useful for surveillance and research?
   (a) Apgar score
   (b) Glasgow scoring system
   (c) Southampton grading system
   (d) ASA classification

2. Following the immunotherapy, in patients undergoing renal transplantation, the skin cancer most commonly seen is
   (a) Skin tumors
   (b) Kaposi's sarcoma
   (c) Hepatomas
   (d) Mycosis fungoides

3. The causes of hypokalemia include the following except
   (a) Tamoxifen therapy
   (b) ACTH producing tumors
   (c) Non-bilious vomiting
   (d) Diabetic ketoacidosis

4. Which one of the following is not a correct statement regarding Raynaud's disease?
   (a) It is idiopathic
   (b) It commonly affects women
   (c) Exposure to cold precipitates vasoconstriction
   (d) The lower extremity involvement is symmetrical

5. Which one of the following statements is correct in case of squamous cell carcinoma of the lip?
   (a) Lymph node metastases occur early
   (b) More than 90 per cent of cases occur on the upper lip
   (c) Lesion often arises in the areas of persistent hyperkeratosis
   (d) Radiotherapy is considered inappropriate treatment for these lesions

6. In a patient of carcinoma tongue, the infiltration of which muscle causes ankyloglossia?
   (a) Styloglossus muscle
   (b) Genioglossus muscle
   (c) Mylohyoid muscle
   (d) Palatoglossus muscle

7. What is the best and most sensitive investigation for hypothyroidism?
   (a) TSH levels
   (b) TRH levels
   (c) T_3, T_4 levels
   (d) Radioactive I_2 uptake

8. Which one of the following is not a correct statement with reference to locally advanced carcinoma breast?
   (a) It constitutes the bulk of patients of carcinoma breast in India
   (b) Patients are staged as T_3 or T_4 with any N, without distant metastasis (M_0)
   (c) Neoadjuvant chemotherapy downgrades the disease
   (d) Radical Mastectomy is the treatment of choice

9. In a patient with breast cancer, the following are poor prognostic factors except:
   (a) High grade
   (b) Absence of epidermal growth factor receptor
   (c) Aneuploid status
   (d) Age less than 35 years

10. Consider the following statements regarding splenectomy:
    1. It corrects anemia in congenital hereditary spherocytosis.
    2. Postponed until the age of 4 years if possible.
    3. Polyvalent pneumococcal vaccine to be administered to all before the surgery.

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for body fat determination. Thus only (3) and (4) are relevant to measuring obesity.

93. (d) A B C D → 3 4 1 2

1. Chlorination of water is monitored by the orthotolidine test (3) to check residual chlorine.
2. Pasteurization of milk is verified by the phosphatase test (4); an inactivated enzyme indicates proper pasteurization.
3. Argemone oil contamination is detected by the nitric acid test (1) (for toxic adulteration).
4. Strength of sewage (pollution load) is commonly assessed by Chemical Oxygen Demand (COD) test (2).

Hence: A → 3, B → 4, C → 1, D → 2.

94. (c) Guthrie Card

The Guthrie test (using a "Guthrie Card") is the classic neonatal screening tool for conditions such as phenylketonuria (PKU), congenital hypothyroidism, and other metabolic disorders. A heel-prick blood sample is spotted onto special filter paper and analyzed. Tay-Sachs, Duchenne, and "Maple Card" are not standard names for universal newborn screening cards; the Guthrie card remains the well-established method.

95. (d) perinatal mortality rate

The Perinatal Mortality Rate (PMR) accounts for late fetal deaths (stillbirths) and early neonatal deaths. It thus reflects both the quality of antenatal, intrapartum, and immediate postnatal care—often described as an important index of "pregnancy wastage." While maternal mortality rate is specific to mothers, infant mortality continues up to 1 year after birth. The PMR focuses on the critical interval around birth, indicating overall obstetric and neonatal care efficacy.

96. (a) Respiratory infection

In India (and many developing regions), acute respiratory infections (particularly pneumonia) remain the leading single cause of death in children under five, including the 1–12 month age group. Diarrhea is also a major contributor, but national data often show pneumonia slightly outpacing diarrhea as the top killer in post-neonatal infancy. Malaria is region-dependent, and prematurity mostly factors into neonatal mortality (<1 month). Hence, among these choices, respiratory infection is considered the most common cause of death in 1–12 month-olds.

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97. (c) 2500 gm

A low birth-weight (LBW) infant is defined by the World Health Organization (WHO) and adopted in India as one whose weight at birth is less than 2500 g (i.e., <2.5 kg). Infants below 1500 g are categorized as Very Low Birth Weight (VLBW), while those below 1000 g are Extremely Low Birth Weight (ELBW). Thus, 2500 g is the internationally accepted cutoff for LBW.

98. (a) immunization

A sentinel surveillance center for vaccine-preventable diseases primarily collects detailed data on the occurrence of specific infections (incidence), their distribution over time and place, and possibly outbreak patterns. It does not routinely measure immunization coverage levels among the population, which is typically monitored by separate immunization surveillance systems or coverage surveys. Hence, "immunization (coverage) data" is not the usual function of a sentinel center focusing on incidence and trends of the diseases themselves.

99. (c) A → 4, B → 3, C → 1, D → 2

1. Oral polio vaccine → Rarely causes vaccine-associated paralysis (4).
2. BCG vaccine → May lead to suppurative lymphadenitis (3) at the local lymph node.
3. Pertussis vaccine (particularly whole-cell) → Can cause persistent inconsolable screaming (1) (prolonged crying).
4. Measles vaccine → Rarely associated with encephalopathy (2).

Hence the mapping is A→4, B→3, C→1, D→2.

100. (d) Severe reaction to a previous dose

Generally, killed (inactivated) vaccines have very few absolute contraindications. Pregnancy, immunodeficiency, or conditions such as Hodgkin's disease are typically relative concerns

116. (c) Total Fertility Rate

The Total Fertility Rate (TFR) estimates the average number of children a woman would bear if she experiences the current age-specific fertility rates throughout her reproductive years. This makes TFR a proxy for "completed family size" under present conditions. General Fertility Rate (births per 1000 women of reproductive age) and Age-Specific Fertility Rate each capture narrower aspects of fertility. Gross Reproduction Rate measures only daughters. TFR is the best single statistic of the total family size in a population.

117. (c) 2 and 3

The Total Fertility Rate is calculated by summing the age-specific fertility rates (ASFRs) across the reproductive age span—i.e., 2. It represents the average (or total) number of children a woman would bear, capturing 3's "magnitude of completed family size." Item 1 specifically indicates the number of daughters (which aligns with "Gross Reproduction Rate," not TFR). Therefore, TFR is best represented by the sum of age-specific rates and the concept of total completed births—points 2 and 3.

118. (c) Mansonoides

Mansonia (sometimes spelled Mansonioides) mosquito larvae attach themselves to underwater parts of aquatic plants, drawing oxygen directly from plant tissues. Because they do not rely on coming to the water's surface to breathe, simply applying a film of oil (which suffocates surface-breathing larvae) will not kill them effectively. Anopheles, Aedes, and Culex larvae must reach the air–water interface for oxygen, so a surface oil film disrupts their respiration.

119. (a) Abate

"Abate" is the trade name for temephos, an organophosphate larvicide widely used to control mosquito larvae in potable water sources. It has relatively low toxicity to humans and animals compared to many other organophosphorus insecticides such as parathion, malathion, or fenitrothion. Because of its safer profile, temephos (Abate) is preferred in public health interventions for breeding-site treatment without posing excessive hazard to the community.

120. (d) A-3 B-2 C-1 D-4

Different arthropod vectors transmit characteristic infections:

1. Hard ticks (Ixodidae) commonly transmit tularemia (Francisella tularensis).
2. Sandflies spread cutaneous leishmaniasis, sometimes called "Oriental sore."
3. The louse (Pediculus humanus) transmits epidemic typhus (Rickettsia prowazekii).
4. Soft ticks (Ornithodoros species) are notorious for relapsing fever (Borrelia).

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2. Murine (endemic) typhus → R. typhi (from rat fleas)
3. Scrub typhus → R. tsutsugamushi (from chigger bites)
4. Indian tick typhus (a form of spotted fever) → R. conorii.

109. (c) secondary prevention

Secondary prevention involves early detection and prompt intervention to halt the progression of a disease. Regular blood pressure checks help identify hypertension at an asymptomatic or early stage, allowing timely treatment to prevent complications (e.g., stroke, heart failure). Primordial prevention aims to prevent risk factors from ever arising, primary prevention targets reducing the incidence of disease, and tertiary prevention addresses established disease to reduce disability. Thus, routine blood pressure monitoring is a classic secondary prevention strategy.

110. (a) Cystic fibrosis

Cystic fibrosis (CF) follows an autosomal recessive inheritance pattern, caused by mutations in the CFTR gene on chromosome 7. Both parents must carry and pass on a defective copy for the offspring to be affected. In contrast, neurofibromatosis type 1 is typically autosomal dominant, and vitamin D-resistant rickets (X-linked hypophosphatemic rickets) is X-linked dominant. Retinitis pigmentosa can have various inheritance patterns (AD, AR, X-linked), but CF is the classic example of an autosomal recessive disorder among the listed choices.

111. (d) A-3 B-1 C-4 D-2

Each pneumoconiosis develops from inhalation of specific dusts over time: anthracosis from coal dust (coal mining), byssinosis from cotton dust (textile mills), bagassosis from sugarcane fiber dust often linked to paper/pulp factory environments, and silicosis from silica exposure in building, quarrying, or sandblasting industries.

112. (c) workshop

A "workshop" typically involves interactive sessions with smaller groups collaborating intensively on a particular problem or skill. The objective is to generate actionable solutions, strategies, or learning outcomes. In contrast, a simple group discussion often lacks the structured, solution-oriented format, and focus groups are largely used for qualitative data gathering. Role play is a training technique for practicing behavioral scenarios. Workshops remain the standard term for small-group, goal-focused planning to tackle a defined issue.

113. (c) pneumonia

According to WHO/IMCI guidelines, for a child aged 12 months to 5 years, a respiratory rate (RR) ≥40 breaths per minute suggests pneumonia if there are respiratory symptoms (like cough). "Severe pneumonia" typically requires additional findings such as chest indrawing, grunting, or cyanosis. "Very severe disease" demands danger signs (inability to feed, convulsions, etc.). An RR of 46 breaths/min in a 2-year-old surpasses the pneumonia cut-off of 40, thus meeting the classification of pneumonia (not severe).

114. (d) 2 and 3

Under India's malaria control efforts, drug distribution centers are indeed employed for active case detection (collecting blood slides) and dispensing anti-malarial medications (2). Additionally, insecticide spraying in areas with an Annual Parasite Incidence (API) below specific thresholds (3) is part of selective vector control. The National Filaria Control Programme is generally not merged with the Urban Malaria Scheme, so 1 is not a correct statement about current strategies. Hence 2 and 3 are in use.

115. (c) Japan, Sri Lanka, India, Nepal

When ranking by crude birth rate (lowest to highest) among these nations, Japan tends to have one of the lowest birth rates globally, followed by Sri Lanka, then India, and finally Nepal with a comparatively higher rate. Hence, the ascending sequence is: Japan < Sri Lanka < India < Nepal.

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for live vaccines, not for killed ones. However, a severe (e.g., anaphylactic) reaction to a previous dose of the vaccine or to a vaccine component is a universal absolute contraindication. If a life-threatening allergic response occurred, that vaccine must be avoided in the future.

101. (d) Hepatitis B vaccine

Yellow fever, Rubella, and Mumps vaccines are all live-attenuated.Hepatitis B vaccine is a recombinant (non-live) vaccine containing HBsAg antigen produced via yeast expression; it is classified among "inactivated" or "subunit" vaccines. Thus, (d) Hepatitis B is the correct choice for a non-live (killed) vaccine.

102. (d) 2 and 3

A Vaccine Vial Monitor (VVM) changes color progressively with cumulative heat exposure. The vaccine is usable when the inner square remains noticeably lighter than the outer circle. Once the square matches or exceeds (darker) the circle's color, the vial is considered compromised and must be discarded. Thus, statement 2 ("same color") and statement 3 ("darker color") both warrant disposal.

103. (a) 2% bleaching powder

Disposal of excreta from typhoid (or other enteric) patients typically involves disinfecting feces to prevent further contamination. 2% bleaching powder solution, containing sufficient "available chlorine," is a standard recommendation to kill Salmonella typhi in stool. While 5% phenol or 5% cresol may be used in some settings, 2% bleaching powder is classically cited in public health guidelines for safe excreta disposal.

104. (d) Alum mixing – flocculation – sedimentation – filtration

A rapid sand filter typically operates with the following sequence:

1. Coagulation/Alum mixing—chemical coagulant added to clump fine particles.
2. Flocculation—gentle stirring to form larger flocs.
3. Sedimentation—settling out of flocs.
4. Filtration—final passage through a sand bed, removing any remaining particles.

Hence the correct order is: alum mixing → flocculation → sedimentation → filtration.

105. (a) 1 and 2 only

According to WHO guidelines, paucibacillary leprosy (PB) in adults is treated for 6 months with Rifampicin plus Dapsone. Multibacillary (MB) leprosy typically uses three drugs: rifampicin, dapsone, and clofazimine. Minocycline is an alternative in certain resistant or special cases, but not part of the standard PB regimen. Hence, among the listed options, items (1) rifampicin and (2) dapsone are correct for standard paucibacillary therapy.

106. (c) 1 and 4

Hepatitis A and E viruses typically spread via the fecal-oral route, often through contaminated food or water. In contrast, hepatitis B and C are primarily transmitted parenterally (e.g., through blood, bodily fluids, or unsafe injections). Hence, among the listed hepatitis viruses, A (1) and E (4) are the classic causes of water-borne or food-borne hepatitis outbreaks and are grouped together for their similar fecal-oral transmission mode.

107. (c) Secondary attack rate

Secondary attack rate measures the spread of an infectious agent within a household or closed contact group over a period of time. It specifically quantifies how effectively a disease transmits from primary cases to susceptible contacts, making it a direct reflection of communicability. Primary attack rate is typically the initial measure in an outbreak, prevalence reflects all existing cases (old and new), and incidence denotes new cases in a population. For contagiousness, secondary attack rate is the key indicator.

108. (d) A-3 B-4 C-2 D-1

Each of these rickettsial diseases is caused by a distinct organism:

1. Epidemic typhus → R. prowazekii (transmitted by body lice)

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groups (those with multiple sexual partners, early onset of sexual activity, immunocompromised status, etc.) is often more cost-efficient and impactful than universal "mass screening." While mass Pap smear programs can be beneficial in well-resourced regions, many countries find it more feasible to focus screening efforts on high-risk women for better yield of precancerous/cancerous lesions. This improves detection rates while reducing the substantial costs of population-wide screening.

86. (c) Agent, host and environment factors

The classic epidemiological triad posits that disease results from the interplay among three primary components: an Agent (e.g., virus, bacterium, chemical), a Host (the susceptible human or animal), and the Environment (conditions that allow or facilitate disease transmission). By contrast, time/place/person is used in descriptive epidemiology, while sensitivity, specificity, and predictive values pertain to test accuracy. Prevalence, incidence and attack rate are measures of disease frequency, not the conceptual triad for causation.

87. (c) 2 and 3 only

A propagated (or progressive) epidemic spreads primarily via person-to-person transmission. Polio can spread through direct or fecal-oral routes among individuals. Gonorrhea also clearly transmits from person to person (sexual contact). By contrast, Hepatitis A typically follows a common-source pattern (contaminated water/food), though person-to-person spread can occur, it is more often recognized as a point or common-source outbreak. Hence, the classic examples of propagated epidemics here are polio and gonorrhea outbreaks.

88. (b) 1 and 2

Folic acid is crucial for DNA and RNA synthesis, thus supporting normal blood cell maturation in the bone marrow. It is, however, not heat-stable. Folic acid is readily destroyed by excessive cooking or boiling, so statement 3 is incorrect. Consequently, statements 1 and 2 are accurate: folic acid is essential for hematopoiesis and nucleic acid synthesis.

89. (b) 1 and 2 only

Dietary fiber helps bind or dilute potential mutagens in the colon, thus can reduce carcinogenic risk (statement 1). Fiber also slows carbohydrate absorption, moderating postprandial glucose spikes (statement 2). However, it generally decreases transit time by promoting more rapid passage through the bowel rather than increasing it. A shorter transit time means fewer days from ingestion to excretion. Since statement 3 says "increases," it is incorrect. Hence only statements 1 and 2 are valid roles of dietary fiber.

90. (c) 30

BMI = weight (kg) ÷ [height (m)]^2. Here, weight = 67.5 kg and height = 1.50 m. Thus, 1.50 m × 1.50 m = 2.25 m^2.

BMI = 67.5 ÷ 2.25 = 30. A BMI of 30 falls within the "obese" category according to the standard WHO classification.

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91. (b) 1–3–2–4

Vitamin A deficiency typically follows a predictable progression:

1. Night blindness (Nyctalopia) is the earliest symptom (Item 1).
2. Conjunctival xerosis next appears (Item 3).
3. Corneal xerosis then develops (Item 2).
4. Finally, keratomalacia (Item 4) can ensue if untreated, causing corneal ulceration and severe visual loss.

Hence the sequence 1 → 3 → 2 → 4 represents the clinical evolution of vitamin A deficiency in the eye.

92. (c) 3 and 4

The Waist–hip ratio (Item 3) is a standard anthropometric measure for central obesity. The Ponderal index (Item 4) is (weight / height^3) often used to assess leanness or overweight status (especially in neonates), but it can be applied more generally as an obesity/undernutrition measure. By contrast, the so-called "Chandelier sign/index" is associated with pelvic examination findings in gynecology, and "Sullivan's index" is not commonly employed

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1 and 3 only

11. Which one of the following is not a common feature of bile duct stone?
(a) Obstructive jaundice
(b) Itching
(c) Clay colored stools
(d) Distended gall bladder

12. A young patient develops high grade fever with chills and rigors, mild jaundice and acute pain in the upper abdomen following cholecystectomy. On examination she was jaundiced, toxic, haemodynamically stable and having vague fullness upper abdomen. What is the most probable diagnosis?
(a) Localised collection of bile in peritoneal cavity
(b) Iatrogenic ligation of common bile duct
(c) Duodenal injury
(d) Acute Pancreatitis

13. Consider the following with reference to the management of portal hypertension in massive variceal bleeding:
1. Infusion of vasopressin
2. General resuscitation
3. Devascularisation procedure
4. Endoscopic sclerotherapy

What is the appropriate sequence in the event of massive variceal bleeding in portal hypertension?
(a) 1, 4, 2, 3
(b) 2, 1, 4, 3
(c) 4, 2, 1, 3
(d) 3, 2, 1, 4

14. The following are complications of gall stone except
(a) Haemobilia
(b) Cholangitis
(c) Biliary enteric fistula
(d) Acute pancreatitis

15. Consider the following:
1. Cholesterosis
2. Adenomyomatosis
3. Polyposis
4. Cholelithiasis

To which of the above does cholecystoses refer to?
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2, 3 and 4
(d) 1 and 3 only

16. A 50 year old diabetic patient with asymptomatic gall stone (3 cm) will be best treated by
(a) Early surgery
(b) Bile-salt treatment
(c) ESWL
(d) Waiting till it becomes symptomatic

17. Consider the following prognostic parameters of acute pancreatitis:
1. Rise in blood urea nitrogen over 5 mg/dl
2. Hematocrit decrease over 10%
3. Base deficit more than 4 mmol/Lit
4. Blood glucose over 10 mmol/Lit

Which of the above parameters are important during initial 48 hours?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 1, 3 and 4

18. Which of the following is not an indication for surgical intervention in acute pancreatitis?
(a) Acute fluid collection
(b) Pancreatic necrosis
(c) Pancreatic abscess
(d) Diagnostic dilemma

19. The following disorders are predisposing conditions for carcinoma of the colon except
(a) Ulcerative colitis
(b) Villous adenoma
(c) Familial polyposis coli
(d) Peutz-Jeghers syndrome

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(b) Specificity
(c) Positive predictive value
(d) Negative predictive value

104. In a programme, results analyzed in comparison to cost is known as
(a) Cost benefit analysis
(b) Management by objectives
(c) Cost effective analysis
(d) Cost utility study

105. The degree to which a specific health care intervention achieves its objectives, when applied in a given population, is termed as its
(a) Sensitivity
(b) Effectiveness
(c) Efficiency
(d) Impact

106. ICDS Scheme does not include
(a) Children in the age group of 0–6 years
(b) Primary school children
(c) Pregnant women
(d) Lactating women

107. Which one of the following is the correct chronological sequence in which the national programs were launched in India for the given diseases?
(Anemia, Filaria, TB, Malaria)
(a) Anemia, Filaria, TB, Malaria
(b) Anemia, TB, Malaria, Filaria
(c) Malaria, Filaria, TB, Anemia
(d) Malaria, Anemia, Filaria, TB

108. To understand the relationship between weight and height of a group of school children, the data can graphically be best depicted through
(a) Bar diagram
(b) Histogram
(c) Pictogram
(d) Scatter diagram

109. In a normal curve, the area of one standard deviation around the mean includes which of the following per cent of values in a distribution?
(a) 48.6%
(b) 68.3%
(c) 95.4%
(d) 99.7%

110. A continuous quantitative data can be depicted by
(a) Pictograms
(b) Pie chart
(c) Histograms
(d) Bar diagrams

111. In which system, continuous enumeration of births and deaths by enumerator and an independent survey by investigator supervisor is done?
(a) Decadal census enumeration
(b) Sample Registration System
(c) Model Registration System
(d) National Family Health Survey

112. The following are all residual insecticides except
(a) Pyrethrum
(b) DDT
(c) Gamma BHC
(d) Malathion

113. Secular trends of diseases refer to
(a) Variation in occurrence across various social strata
(b) Changes in incidence as per climate
(c) Differences in incidence across different religions
(d) Changes in occurrence over long period of time

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114. Which of the following countries was the first to institute compulsory sickness insurance?
(a) USA
(b) England
(c) France
(d) Germany

32. O_2 (Oxygen) dissociation curve is shifted to the right in the following except
(a) Rise in temperature
(b) Hypercapnia
(c) Raised 2,3 DPG level
(d) Metabolic alkalosis

33. Wasting of the intrinsic muscles of the hand can be expected to follow injury of the
(a) Ulnar nerve
(b) Radial nerve
(c) Brachial nerve
(d) Axillary nerve

34. Consider the following statements: Systemic Inflammatory Response Syndrome is characterised by
1. Temperature either above 38°C or below 36°C.
2. Heart rate less than 80/minute.
3. Tachypnoea 20/min.
4. Leucocyte count 4×10^9/L.

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 3 and 4

35. Which type of breast cancer is most likely to be bilateral?
(a) Infiltrating duct carcinoma
(b) Paget's disease of breast
(c) Lobular carcinoma of breast
(d) Medullary carcinoma of breast

36. Match List I with List II and select the correct answer using the code given below the Lists:

	List I (Characteristic feature)		**List II (Scar type)**
A	Not familial	1	Burn scar
B	Outgrows wound area	2	Hypertrophic scar
C	Contractures	3	Tattooed scar
D	Particles of dirt, soot implanted in wound	4	Keloid scar

(a) A-3 B-1 C-4 D-2
(b) A-2 B-4 C-1 D-3
(c) A-3 B-4 C-1 D-2
(d) A-2 B-1 C-4 D-3

37. Which one of the following is the best indicator of prognosis of soft tissue sarcoma?
(a) Tumour size
(b) Histological type
(c) Nodal metastasis
(d) Tumour grade

38. Lympho-venous anastomosis is done for
(a) Filarial lymphoedema
(b) Lymphoid cyst
(c) Cystic hygroma
(d) Malignant lymphoedema

39. Which one of the following investigations is considered to be Gold standard technique for diagnosis of arterial occlusive disease?
(a) Doppler ultrasound blood flow detection
(b) Duplex imaging
(c) Treadmill
(d) Digital Subtraction Angiography (DSA)

40. Which one of the following statements is not correct regarding thoracic inlet syndrome?
(a) Radial nerve is involved
(b) Resection of First rib is effective treatment
(c) Physiotherapy and position exercises relieve symptoms
(d) Neurological signs and symptoms are common

41. Haemodynamic changes in pregnancy include the following except
(a) Increase in cardiac output
(b) Increase in heart rate
(c) Decrease in vascular resistance
(d) Increase in mean arterial pressure

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20. To which lymph nodes, the lymph from the umbilicus drain?
(a) Axillary and inguinal
(b) External and inter†al iliac
(c) Pre and para-aortic
(d) Inter aortocaval

21. The most common intra peritoneal abscess following peritonitis is
(a) Subphrenic
(b) Pelvic
(c) Para colic
(d) Interloop

22. The following statements are correct about burst abdomen (abdominal dehiscence) except
(a) Peak incidence is between 6th and 8th post operative day
(b) Manage with nasogastric aspiration and intravenous fluids
(c) Cover the wound with sterile towel and perform emergency surgery
(d) Second dehiscence is very common

23. A patient presents to the emergency department with pain and distension of abdomen and absolute constipation. What is the investigation of choice?
(a) Plain X-ray abdomen (Erect)
(b) Ultrasonography
(c) Barium meal follow-through
(d) Colonoscopy

24. What is the investigation of choice in a patient with blunt abdominal trauma with hematuria?
(a) Ultrasonography of abdomen
(b) Contrast enhanced computed tomography
(c) Intravenous urogram
(d) Retrograde urogram

25. An entity of pneumothorax which leads to build up of positive pressure within the hemithorax, leading to collapse of lung, flattened diaphragm, mediastinal shift to contralateral side and eventually the venous return to the right side of heart is compromised — is known as
(a) Primary spontaneous pneumothorax
(b) Tension pneumothorax
(c) Haemo-pneumothorax
(d) Secondary spontaneous pneumothorax

26. The commonly seen depression deformity of the chest wall is known as
(a) Pectus excavatum
(b) Pectus carinatum
(c) Manubrial gladiolar prominence
(d) Kyphosis

27. Which one of the following is the treatment of choice for lower ureteric stone?
(a) Endoscopic removal
(b) Diuretics
(c) Drug dissolution
(d) Laser

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28. Which one of the following is the treatment of choice in a child with inguinal hernia?
(a) Bassini's repair
(b) Shouldice operation
(c) Herniotomy alone
(d) Lichtenstein repair

29. Motility disorders of the oesophagus are best diagnosed by
(a) Barium meal
(b) Manometry
(c) Radiography
(d) Endoscopy

30. Which one of the following organism is not associated with synergistic gangrene?
(a) Escherichia
(b) Staphylococcus
(c) Clostridium
(d) Peptostreptococcus

31. Clinical signs and symptoms in tetanus are a result of
(a) Endotoxins
(b) Exotoxins fixed to motor nerve endplates
(c) Circulating exotoxins
(d) Both endotoxins and exotoxins

53. A 25 year old patient who has had an abortion four months ago has come with the history of profuse vaginal bleeding. On examination uterus is bulky, both the ovaries are enlarged, pregnancy test is positive. What is the probable clinical diagnosis.?
(a) Incomplete abortion
(b) Chorio carcinoma
(c) Malignant ovarian tumor
(d) Ectopic pregnancy

54. Most common newborn rash which presents at 24–48 hours of life is
(a) Erythematous papular pustular lesions
(b) Milia
(c) Transient neonatal pustular melanosis
(d) Haemangioma

55. Rupture uterus is most commonly encountered after which one of the following surgeries?
(a) Classical cesarean
(b) Metroplasty
(c) Myomectomy
(d) Hysterotomy

56. Neural tube defects have which one of the following inheritance patterns?
(a) Autosomal dominant
(b) Autosomal recessive
(c) X-linked recessive
(d) Multi-factorial

57. The fern pattern of cervical mucus seen in the first half of menstrual cycle is because of
(a) High mucoprotein level
(b) Low mucoprotein level
(c) High sodium chloride level
(d) Low sodium chloride level

58. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Abnormality in the fetomaternal unit in placenta)		**List II (Condition caused/ Etiological effect)**
A	Absence of Nitabuch's layer	1	Increased exchange of nutrients
B	Absence of secondary invasion of trophoblast	2	Adherent placenta
C	Thinning of cytotrophoblasts	3	Vasospasm & PIH
D	Future of body stalk	4	Umbilical cord

Code :
(a) A-1 B-3 C-2 D-4
(b) A-2 B-3 C-1 D-4
(c) A-4 B-1 C-2 D-3
(d) A-3 B-1 C-2 D-4

59. Polycystic ovarian syndrome is associated with the following except
(a) Ovarian carcinoma
(b) Endometrial hyperplasia
(c) Impaired glucose tolerance
(d) Dyslipidemia

60. Match List I with List II and select the correct answer using the code given below the Lists :
List I (Syndrome)
A. Androgen Insensitivity syndrome
B. Mayer-Rokitansky-Kuster-Hauser syndrome
C. Swyer's syndrome
D. Kallman syndrome
List II (Conditions)
1. Mullerian agenesis with 46 XX
2. Female phenotype, 46 XY with absent Mullerian system
3. Hypogonadotrophic Hypogonadism with Anosmia
4. Female phenotype with 46 XY gonadal dysgenesis with patent Mullerian system

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82. Berksonian bias is a selection bias which occurs in
(a) Community based studies
(b) Hospital based studies
(c) Laboratory based studies
(d) Natural exposure studies

83. The gap in time between the onset of the primary case and the secondary case is called as
(a) Latent period
(b) Generation time
(c) Serial interval
(d) Communicable period

84. The milk of which of the following contains the least amount of calcium?
(a) Human
(b) Cow
(c) Buffalo
(d) Goat

85. Among the following, which has the highest quantity of retinol per 100 g of fruit?
(a) Papaya
(b) Orange
(c) Ripe Mango
(d) Tomato

86. Which of the following is not an absolute contraindication for insertion of intrauterine device (IUD)?
(a) Endometrial cancer
(b) Severe dysmenorrhea
(c) Pelvic tuberculosis
(d) Puerperal sepsis

87. According to International Health Regulations, there is no risk of spread of yellow fever if the Aedes aegypti index is kept at
(a) below 1%
(b) 2–4%
(c) 5–7%
(d) 8–10%

88. During the process of chlorination of water, the disinfecting action of chlorine is due to the formation of
(a) Hydrochloric acid only
(b) Hypochlorous acid only
(c) Hydrochloric acid and hypochlorite ions
(d) Hypochlorous acid and hypochlorite ions

89. Kata thermometer is used for recording :
(a) Maximum and minimum temperature
(b) Low air velocities
(c) Relative humidity of the air
(d) Mean radiant temperature

90. Match List I with List II and select the correct answer using the code given below the Lists :

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	List I (Name of disease)		**List II (Animal host)**
A	Anthrax	1	Rats
B	Leptospirosis	2	Monkeys
C	Yellow fever	3	Sheep
D	Japanese encephalitis	4	Pigs

Code :
(a) A-1 B-3 C-2 D-4
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-1 C-2 D-4

91. Consider the following :
1. Land filling for source reduction.
2. Vaccination of pigs in the risk area.
3. Immunization of children in risk area.

Which of the above are the recommended control strategies for Japanese Encephalitis?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

92. In a community with one lakh population, 20,000 slides were examined in a particular year. Out of these 100 were positive for malarial parasite. What is the Annual Parasite Incidence (API) in this community?
(a) 5

70. What is the drug of choice for emergency contraception?
(a) Yuzpe regimen (combined oral pill)
(b) High dose oestrogen alone
(c) Levonorgestrel only pill
(d) Danazol

71. Which one of the following is not a third generation progestogen used in combined oral contraceptive pills?
(a) Levonorgestrel
(b) Desogestrel
(c) Gestodene
(d) Norgestimate

72. Minipill containing 75 μg of desogestrel is used for contraception. Which of the following is its schedule of administration?
(a) Taken once a day pill for 3 months with 7 days pill free interval
(b) Taken once a day pill for 2 months with 7 days pill free interval
(c) Taken for 21 days with 7 days pill free interval
(d) Taken for 28 days with no pill free interval

73. What is the most common cause of vault prolapse following hysterectomy?
(a) Chronic cough
(b) Obesity
(c) Diabetes mellitus
(d) Failure to identify and repair enterocele

74. Safe period is calculated by
(a) Length of menstrual cycle
(b) Duration of menstrual flow
(c) Date of ovulation
(d) Length of luteal phase

75. What is the IUCD of choice in women with menorrhagia?
(a) Lippe's loop
(b) Copper-T 200
(c) Copper-T 380A
(d) Progesterone containing IUCD

76. Consider the following list of cancers :
1. Ovarian cancer
2. Colon cancer
3. Endometrial cancer
4. Breast cancer

What is the effect of combined oral contraceptive pills on the above?
(a) Protection against 1, 2 and 3
(b) Increased risk of 3 and 4 only
(c) Decreased risk of 1 and 2 only
(d) Increased risk of 2 and 3 only

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77. What is the content of ethinyl estradiol in very low dose oral contraceptives?
(a) 30 μg
(b) 25 μg
(c) 20 μg
(d) 15 μg

78. Following which of the tubectomy procedures listed below, best result is achieved for reversal sterilization (recanalization procedure)?
(a) Fallop ring occlusion
(b) Pomeroy ligation
(c) Electrocoagulation
(d) Transvaginal tubectomy

79. Folic acid deficiency is characterized by the following features except
(a) Macropolycytes
(b) Hyperpigmentation of neutrophils
(c) Microcytes
(d) Howell-Jolly bodies

80. Vaccines that can be safely given during pregnancy are the following except
(a) Tetanus
(b) Influenza
(c) Rubella
(d) Pneumococcus

81. For a screening test, 90% specificity means that 90% of non-diseased persons will give a
(a) True negative result
(b) True positive result
(c) False negative result
(d) False positive result

42. The maximum chances of HIV infection being transmitted to the fetus/infant in an HIV infected mother are during
(a) First trimester
(b) Third trimester
(c) During labour
(d) During breast feeding

43. Which one of the following statements is not correct about obstetric cholestasis?
(a) It results in pruritis without rash
(b) Associated with markedly high bilirubin and raised liver enzymes
(c) It is an indication of termination of pregnancy at 37 weeks
(d) Risk of recurrence is high in future pregnancies

44. What is the most commonly observed fetal effect in women receiving magnesium sulphate therapy for pre-eclampsia/eclampsia?
(a) Respiratory depression
(b) Variability in fetal heart rate pattern
(c) Cerebral palsy
(d) Intestinal obstruction

45. Spiegelberg's criteria for diagnosis of ovarian pregnancy include the following except
(a) Tube on the affected side must be intact
(b) Gestational sac must occupy the position of ovary
(c) Gestational sac is connected with infundibulopelvic ligament
(d) Ovarian tissue should be present in the wall of gestational sac on histopathology

46. Consider the following markers:
1. Nuchal translucency
2. P A P P – A
3. G T T
4. Inhibin A

Which of the above markers are included in the first trimester screening of Down's syndrome.?
(a) 1 and 2
(b) 2 and 3 only
(c) 1 and 4
(d) 2, 3 and 4

47. The following changes may be seen in pre-eclampsia except
(a) Decreased anti thrombin III
(b) Hemodilution
(c) Thrombocytopenia
(d) Elevated uric acid

48. The most common karyotype of a partial mole is
(a) Diploid 46 XX
(b) Diploid 46 XY
(c) Triploid
(d) Haploid

49. Contraindications to epidural analgesia include the following except
(a) Raised intracranial pressure
(b) Coagulopathy
(c) Infection over the back
(d) Hypertension

50. Post coital contraception is achieved by all except
(a) High degree of progesterone
(b) By administration of RU 486
(c) Gn Rh agonist
(d) Administration of prostaglandins

51. Variable decelerations on an electronic fetal heart rate monitor imply
(a) Umbilical cord compression
(b) Fetal head compression
(c) Fetal anemia
(d) Utero-placental insufficiency

52. What is the maternal risk of using misoprostol for ripening of cervix during induction of labour?
(a) Tachycardia
(b) Hypotension
(c) Tachysystole/hyperstimulation of uterus
(d) Bradycardia

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(b) 2
(c) 1
(d) 0.5

93. The period of time required for the development of the parasite from the gametocyte to sporozoite stage in the body of the mosquito is about 10–20 days. This period is also referred to as
(a) Asexual cycle
(b) Schizogony
(c) Erythrocytic cycle
(d) Extrinsic incubation period

94. Which one of the following is a characteristic of Human-Immune-deficiency virus?
(a) It cannot cross blood brain barrier
(b) It is resistant to acetone
(c) It is easily killed by heat
(d) It is easily killed by T_4 lymphocytes

95. With reference to lepromin test, which one of the following statements is correct?
(a) Lepromin test is strongly positive in tuberculoid leprosy
(b) It is not affected by BCG vaccine
(c) It can be used as a diagnostic test
(d) Its interpretation is done within 24 hours

96. Amniocentesis in early pregnancy for genetic disorders is a kind of
(a) primordial prevention
(b) primary prevention
(c) secondary prevention
(d) tertiary prevention

97. Which of the following correctly describes gene therapy?
(a) Synthesis of DNA probes with specific sequence
(b) Mapping and isolation of gene sequence
(c) Introduction of gene sequence into a cell
(d) Use of polymerase chain reaction technique

98. Which one of the following is a correct combination regarding Indian population?
(a) Blood group AB 20%; Rh negative 15%
(b) Blood group A 40%; Rh positive 80%
(c) Blood group O 40%; Rh negative 7%
(d) Blood group B 33%; Rh positive 99%

99. The law stating that the relative frequencies of each gene allele tend to remain constant from generation to generation is known as
(a) Mendel's Law
(b) Hardy-Weinberg Law
(c) David-Morgan's Law
(d) Lamarck's Law

100. Consider the following:
1. Right to be informed
2. Right to choose
3. Right to seek redressal

Which of the above is/are the rights included in the Consumer Protection Act?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

101. Other than cataract, which one among the following is the highest prevalent cause of blindness in the world?
(a) Corneal opacity
(b) Diabetic retinopathy
(c) Glaucoma
(d) Trachoma

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102. Consider the following statements:
1. The deficiency of thiamine leads to the accumulation of pyruvic and lactic acids in the body.
2. Riboflavin deficiency impairs the optimal utilization of pyridoxine.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

103. The ability of a screening test to detect True positives is known as
(a) Sensitivity

Code :
(a) A-3 B-1 C-4 D-2
(b) A-2 B-4 C-1 D-3
(c) A-3 B-4 C-1 D-2
(d) A-2 B-1 C-4 D-3

61. Match List I with List II and select the correct answer using the code given below the Lists :

	List I (Condition/ endometrial pathology)		**List II (Choice of treatment)**
A	Simple hyperplasia	1	Reassurance
B	Ovulatory menorrhagia	2	Progestins for 6 months
C	Puberty menorrhagia	3	Oral contraceptive pills
D	Irregular shedding	4	Hematinics

Code:
(a) A-2 B-3 C-4 D-1
(b) A-1 B-4 C-2 D-3
(c) A-4 B-1 C-2 D-3
(d) A-3 B-1 C-2 D-4

62. Which of these can be used for uterine artery embolization for fibroid uterus?
(a) Polyglactin
(b) Ethacridine lactate
(c) Polyvinyl alcohol
(d) Methylene blue

63. The most appropriate management of a 32 weeks pregnant lady with carcinoma cervix stage 2 b is
(a) Chemo-radiation followed by labour induction and vaginal delivery
(b) Labour induction, vaginal delivery followed by radio-therapy
(c) Lower segment caesarean section followed by radio-therapy
(d) Classical caesarean section followed by radio-therapy

64. Which one of the following histological types is the most virulent carcinoma of cervix?
(a) Small cell keratinizing
(b) Large cell keratinizing
(c) Small cell non-keratinizing
(d) Large cell non-keratinizing

65. Which of the following is not related to the use of Levonorgestrel releasing intra-uterine contraceptive device?
(a) Reduction of blood loss
(b) Reduction of pain and dysmenorrhea in endometriosis and adenomyosis
(c) Inhibition of ovulation
(d) Amenorrhea in 50% of cases

66. Combined oral pills protect the woman against all except
(a) Menorrhagia
(b) Benign breast disease
(c) Pelvic inflammatory disease
(d) Venous thromboembolism

67. Following statements are correct about levonorgestrel containing intra-uterine contraceptive device (Mirena) except
(a) It releases 20 μg/day of levonorgestrel
(b) It increases the risk of ectopic pregnancy
(c) It increases the risk of ovarian cyst formation
(d) It reduces the risk of pelvic inflammatory disease

68. Hormonal contraceptive of choice in a lactating woman is
(a) Combined Pill
(b) Multiphasic Pill
(c) Mini Pill
(d) Centchroman

69. After how many hours of LH surge does the ovulation occur?
(a) 12–24 hours
(b) 24–36 hours
(c) 12–36 hours
(d) 24–48 hours

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115. Which one of the following statements regarding international classification of diseases, 10th revision (ICD-10) is not correct?
(a) It has twenty one major chapters
(b) Each chapter has three character categories
(c) First character of a code is a 'letter'
(d) It has four volumes

116. Which of the following fats has the highest concentration of saturated fatty acids?
(a) Butter
(b) Palm oil
(c) Coconut oil
(d) Margarine

117. The germ theory of disease was propounded by
(a) Robert Koch
(b) Hippocrates
(c) Louis Pasteur
(d) August Weismann

118. Which one of the following is not a utilization rate?
(a) Population bed ratio
(b) Bed occupancy rate
(c) Bed turnover ratio
(d) Average length of stay

119. Virulence of a biological agent is defined as
(a) Ability of the agent to invade and multiply in a host
(b) Proportion of clinical cases resulting in severe clinical manifestation
(c) Ability of the agent to induce a clinically apparent illness
(d) Proportion of clinical cases in a virgin population

120. Which one of the following modes of intervention covers the process of advising a patient to change his lifestyle in order to prevent any risk factor for a disease?
(a) Health Promotion
(b) Specific Protection
(c) Disability Limitation
(d) Rehabilitation

END

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binds near neuromuscular junctions and central inhibitory synapses.

32. (d) Metabolic alkalosis

A right shift in the hemoglobin-oxygen dissociation curve lowers oxygen affinity and is favored by higher temperature, higher pCO_2 (hypercapnia), lower pH, and increased 2,3 DPG. Metabolic alkalosis, conversely, increases the pH, favoring a left shift (increased oxygen affinity). Thus, (d) is the "except" among the listed factors.

33. (a) Ulnar nerve

The ulnar nerve innervates most intrinsic hand muscles (interossei, the third and fourth lumbricals, the adductor pollicis). Damage leads to muscle wasting (particularly the interossei, producing a classic "guttering" appearance) and clawing. The radial nerve mainly supplies extensors of the wrist/hand, the brachial plexus is more global, and the axillary nerve innervates the deltoid/teres minor in the shoulder region.

34. (d) 1, 3 and 4

The standard SIRS criteria include: (1) Fever >38°C or hypothermia <36°C, (2) Tachycardia >90/min (so 2 in the question is actually reversed and thus incorrect), (3) Tachypnea >20/min or low $PaCO_2$, and (4) WBC >12,000/mm^3 or <4,000/mm^3 (the question's wording ">4×10^9/L" is truncated but is typically meant to capture abnormal WBC). Since 2 is clearly wrong (<80/min), the correct set becomes 1, 3, and 4.

35. (c) Lobular carcinoma of breast

Of the major histological subtypes, lobular carcinoma has the highest incidence of bilateral or multifocal involvement. Infiltrating duct carcinoma is the most common type overall, but less likely to appear bilaterally. Paget's disease affects the nipple-areolar complex (usually unilaterally), and medullary carcinoma also tends to be unilateral.

36. (b) A-2 B-4 C-1 D-3

1. Hypertrophic scars (2) tend to be confined to the original wound boundary and are not familial (A).
2. Keloids (4) "outgrow" (extend beyond) the wound edges (B).
3. Burn scars (1) commonly lead to contractures (C).
4. Tattooed scars (3) contain embedded pigments/dirt (D).

Hence A→2, B→4, C→1, D→3.

37. (d) Tumour grade

In soft tissue sarcomas, the histological grade—which reflects the degree of cellular differentiation, mitotic rate, and necrosis—is the single most important prognostic indicator, more so than size or nodal status in many cases. A high-grade tumor typically implies aggressive behavior and a poorer outcome. Tumor size does matter, but grade generally trumps it as a predictor of metastasis and survival.

38. (a) Filarial lymphoedema

Lympho-venous anastomosis can help bypass obstructed lymphatic channels, particularly in filarial lymphoedema of the lower limbs. By surgically connecting lymphatic vessels to veins, fluid can be diverted, reducing edema. Malignant lymphoedema and cystic hygromas have different treatment paradigms (e.g., excision, sclerotherapy). Lymphoid cysts in other sites rarely require such an approach. Hence filariasis-induced chronic lymphedema is the prime indication.

39. (d) Digital Subtraction Angiography (DSA)

While Duplex ultrasound, Doppler flow, and treadmill tests (exercise testing) are useful non-invasive methods to evaluate peripheral arterial disease, the definitive or "gold standard" for pinpointing the exact location and severity of arterial stenoses or occlusions remains digital subtraction angiography. It provides precise anatomical detail and can be combined with interventional procedures if needed.

40. (a) Radial nerve is involved

Thoracic inlet (or outlet) syndrome predominantly affects the lower trunk of the

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Locally advanced breast cancer (LABC) is indeed common in many settings, including India, often presenting as T_3 or T_4 lesions without distant metastasis. Neoadjuvant chemotherapy is given to shrink tumors before surgery. The modern surgical management is typically breast-conserving surgery (where feasible) or a modified radical mastectomy rather than the older Halsted radical mastectomy. Thus, claiming radical mastectomy as the "treatment of choice" is no longer correct.

9. (b) Absence of epidermal growth factor receptor

High tumor grade, aneuploid status, and very young age (under 35) are linked with more aggressive breast cancer and thus worse prognosis. Having epidermal growth factor receptor (EGFR or HER2) overexpressed often correlates with aggressive disease. Conversely, its absence is not a poor prognostic sign. Therefore, "absence of epidermal growth factor receptor" is comparatively more favorable than its presence and represents the "except" among the listed poor prognostic factors.

10. (a) 1, 2 and 3

Splenectomy helps correct hemolysis-related anemia in hereditary spherocytosis. Elective splenectomy in children is best delayed until at least 4–5 years of age to reduce postsplenectomy infection risks. Furthermore, preoperative vaccination against encapsulated organisms (pneumococcus, meningococcus, and H. influenzae) is advised to mitigate overwhelming postsplenectomy sepsis (OPSS). Hence, all three statements are correct.

11. (d) Distended gall bladder

Common bile duct stones can cause obstructive jaundice, leading to pruritus (itching) and pale (clay-colored) stools due to reduced bile flow into the intestine. However, palpable or markedly distended gallbladder (Courvoisier's sign) more typically suggests malignant obstruction (e.g., pancreatic head cancer) rather than stone-related obstruction. While the gallbladder may become inflamed or mildly distended with stones, a prominent distension is not commonly seen.

12. (a) Localised collection of bile in peritoneal cavity

Post-cholecystectomy, a "biloma" (localized bile collection) may occur due to leakage from the cystic duct stump or accessory ducts. It can present with fever, abdominal pain, and mild jaundice if infected or if bile flow into the duodenum is impaired. Iatrogenic ligation of the duct typically produces persistent obstructive jaundice (often without high-grade fever unless cholangitis develops). Duodenal injury and acute pancreatitis have different clinical and biochemical profiles.

13. (b) 2, 1, 4, 3

The immediate priority is general resuscitation (IV fluids, blood transfusions) to stabilize the patient. Next, vasopressin (or other vasoactive agents like octreotide/terlipressin) is started to reduce portal pressure. Then, endoscopic sclerotherapy (or band ligation) addresses the active variceal source. Finally, if endoscopic methods fail or the disease is severe, a devascularization procedure (e.g., surgical shunt or TIPS) may be considered. Thus, the correct sequence is 2 → 1 → 4 → 3.

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14. (a) Haemobilia

Gallstones commonly lead to cholangitis (by obstructing the common duct), acute pancreatitis (especially when the stone lodges at the ampulla), and may erode into the bowel to form a biliary-enteric fistula. Haemobilia (bleeding into the biliary tree) is more often seen after hepatic trauma or aneurysm rupture into the ducts and is relatively rare as a direct complication of cholelithiasis, making it the correct "except."

15. (a) 1, 2 and 3

"Cholecystoses" (or hyperplastic cholecystoses) include several benign, hyperplastic, or degenerative conditions of the gallbladder wall. The main examples are cholesterolosis ("strawberry gallbladder"), adenomyomatosis, and various gallbladder polyps. These are distinct from gallstones (cholelithiasis), which is not grouped under the "cholecystoses" category.

are diploid, but entirely paternally derived (e.g., 46 XX). Hence triploidy (69 chromosomes) is characteristic of partial moles.

49. (d) Hypertension

Absolute contraindications to epidural anesthesia are severe coagulopathy (risk of spinal/epidural hematoma), local infection at the puncture site, and unstable or significantly raised intracranial pressure. Mild-to-moderate hypertension is not a contraindication, though severe uncontrolled hypertension needs caution. Hypertension alone does not preclude epidural analgesia.

50. (c) Gn Rh agonist

Emergency (postcoital) contraception can be achieved by high-dose progestogens (levonorgestrel), mifepristone (RU486), or sometimes prostaglandins (though less commonly used on their own). GnRH agonists (e.g., leuprolide) are not a recognized method for routine postcoital contraception.

51. (a) Umbilical cord compression

Variable decelerations have an abrupt drop in fetal heart rate, varying in timing and shape with respect to contractions. They are most commonly due to umbilical cord compression. Head compression (typical of early decelerations) and uteroplacental insufficiency (late decelerations) have more consistent timing relationships to contractions.

52. (c) Tachysystole/hyperstimulation of uterus

While misoprostol (a prostaglandin E_1 analogue) is effective for cervical ripening, it can cause excessive uterine contractions (tachysystole or hyperstimulation), which may lead to fetal distress or uterine rupture if severe. Tachycardia, hypotension, or bradycardia are not the common maternal side effects specifically attributed to misoprostol.

53. (b) Chorio carcinoma

A persistently enlarged uterus, high β-hCG, and ongoing bleeding after a pregnancy event strongly suggest gestational trophoblastic neoplasia, commonly choriocarcinoma. The presence of enlarged ovaries may reflect theca lutein cysts due to high hCG. Incomplete abortion or ectopic pregnancy would not typically cause this combination of features, and a malignant ovarian tumor with positive pregnancy test is less likely.

54. (a) Erythematous papular pustular lesions

Erythema toxicum neonatorum is extremely common in the first 2 days of life, presenting with erythematous macules, papules, or small pustules on the trunk and sometimes the face. It's benign and resolves spontaneously. Milia, transient pustular melanosis, and congenital hemangiomas appear differently and with different timing or morphology.

55. (a) Classical cesarean

A classical cesarean section (vertical incision in the upper uterine segment) is associated with a higher rate of uterine rupture in subsequent pregnancies or labor, as the upper segment is more prone to dehiscence than the lower segment. Metroplasty, myomectomy, or hysterotomy can carry some risk, but classical cesarean is famously the riskiest incisional type.

56. (d) Multi-factorial

Neural tube defects (e.g., spina bifida, anencephaly) are multi-factorial in inheritance, involving a combination of genetic predisposition, nutritional factors (like folate deficiency), and environmental triggers. They do not follow classic single-gene (Mendelian) inheritance patterns.

57. (c) High sodium chloride level

When cervical mucus is placed on a slide and dried, the crystallization that forms a "fern pattern" is due to high salt content—especially sodium chloride—under estrogenic influence in the follicular phase. Mucoprotein changes do affect viscosity, but the ferning phenomenon correlates mainly with the electrolyte (NaCl) concentration in the mucus.

58. (b) A-2 B-3 C-1 D-4

1. Absence of Nitabuch's layer → Adherent placenta (2), i.e. placenta accreta.

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In an acute presentation suggestive of intestinal obstruction (pain, distension, no passage of stool or flatus), an erect abdominal X-ray is typically the first and most rapid test. It can show dilated loops of bowel and multiple air-fluid levels. Ultrasonography can help, but gas in the bowel often limits its clarity. A barium study or colonoscopy is not the immediate test in a suspected acute obstruction.

24. (b) Contrast enhanced computed tomography

In blunt trauma with hematuria, a contrast-enhanced CT scan of the abdomen/pelvis (including a dedicated renal excretory phase) is the gold-standard imaging to identify renal injuries, urinary tract lacerations, or other intra-abdominal organ damage. Ultrasound is useful for quick screening (e.g., FAST exam), but is less detailed than a CT. Traditional IVU or retrograde urogram are rarely used now for trauma when multi-detector CT is available.

25. (b) Tension pneumothorax

A tension pneumothorax arises when air enters the pleural space and cannot escape, creating increasing intrathoracic pressure on the affected side. This collapses the ipsilateral lung, shifts the mediastinum away, and impedes venous return to the heart, producing hemodynamic compromise. Primary or secondary spontaneous pneumothorax do not necessarily generate tension unless a one-way valve mechanism is created.

26. (a) Pectus excavatum

Pectus excavatum (funnel chest) is the depression deformity in which the sternum is sunken inward. By contrast, pectus carinatum is a protrusion (pigeon chest). Manubrial prominence or kyphosis describes different anterior chest/spinal curvatures but not the characteristic "inward" depression typical of pectus excavatum.

27. (a) Endoscopic removal

For distal ureteric stones, ureteroscopic (endoscopic) retrieval and/or lithotripsy is the favored approach, especially if the stone is larger than about 6–7 mm or is not passing spontaneously. Medical expulsive therapy with alpha-blockers may help smaller stones. Diuretics or oral dissolution agents have limited efficacy for ureteric calculi, and lasers are one modality for lithotripsy but are typically part of an endoscopic approach.

28. (c) Herniotomy alone

In pediatric inguinal hernias, the essential pathology is a patent processus vaginalis; repairing it typically involves high ligation of the hernial sac (herniotomy) without the need for mesh or muscular repairs (e.g., Bassini, Shouldice, or Lichtenstein) that are standard in adults. Children's inguinal canal walls are otherwise healthy; simply closing the sac generally suffices.

29. (b) Manometry

While a barium swallow may give a structural outline (e.g., "corkscrew" appearance in diffuse spasm), esophageal manometry is the gold-standard to assess the pressure dynamics and contractile patterns of the esophagus. Endoscopy can rule out mechanical obstructions but does not measure motility per se. Plain radiography is non-specific.

30. (b) Staphylococcus

"Synergistic gangrene" or type I necrotizing soft-tissue infection generally involves mixed aerobes (like Escherichia coli) and anaerobes (e.g., Clostridium, Peptostreptococcus, Bacteroides). Staphylococcus aureus is more typically encountered in type II (streptococcal) necrotizing fasciitis when combined with group A streptococci, but is less characteristic in the classic "polymicrobial" synergy that includes Gram-negative bacilli and anaerobes.

31. (b) Exotoxins fixed to motor nerve endplates

In tetanus, Clostridium tetani produces tetanospasmin, a potent exotoxin. It travels retrogradely along motor neurons to the spinal cord, but key to its clinical manifestations is blocking inhibitory interneurons, leading to unopposed muscle contraction/spasm. This toxin is not a circulating endotoxin; rather, it

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PAPER 2009 ANSWERS

1. (c) Southampton grading system

The Southampton grading system is specifically designed to evaluate and categorize surgical-site (wound) infections. It is widely used in research and clinical surveillance because it systematically grades wound conditions from normal healing to severe infection. Apgar score applies to newborns, Glasgow scores head injuries, and the ASA classification grades anesthetic risk, not wound infection severity.

2. (a) Skin tumors

Immunosuppression after renal transplantation predisposes patients to various malignancies, with cutaneous (skin) malignancies, particularly squamous cell carcinoma, being among the most common. Kaposi's sarcoma is more strongly linked to HIV infection, hepatomas are liver tumors, and mycosis fungoides is a T-cell lymphoma. Hence, the most commonly encountered tumors in immunosuppressed renal transplant recipients are "skin tumors."

3. (a) Tamoxifen therapy

Hypokalemia can result from excessive aldosterone (as in ACTH-producing tumors), from repeated vomiting (particularly non-bilious gastric fluid loss leading to secondary hyperaldosteronism), and from shifts of potassium out of cells plus total body depletion (as in diabetic ketoacidosis). Tamoxifen is more commonly associated with effects on estrogen pathways and is not generally implicated in causing hypokalemia, making it the correct "except."

4. (d) The lower extremity involvement is symmetrical

Primary (idiopathic) Raynaud's disease often occurs in young women and is classically triggered by cold or stress, leading to episodic vasospasm of the small arteries/arterioles of the hands. While it can occasionally involve the feet, the hallmark and most common site is the fingers (upper extremities). It is typically symmetrical in the hands, not characteristically involving the lower extremities in a symmetrical fashion, making option (d) incorrect.

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5. (c) Lesion often arises in the areas of persistent hyperkeratosis

Squamous cell carcinoma of the lip typically arises on areas subjected to chronic irritation or precancerous changes like leukoplakia or hyperkeratosis. Over 90% of lip carcinomas occur on the lower lip (so statement (b) is incorrect). Lymph node metastases are not characteristically early in lip SCC, and radiotherapy is indeed a recognized treatment (not inappropriate). Hence, the correct statement is that these lesions often develop where there is persistent hyperkeratosis.

6. (b) Genioglossus muscle

"Ankyloglossia" refers to restricted tongue movement. The genioglossus muscle is primarily responsible for protruding the tongue. When a tongue carcinoma invades the genioglossus, the patient loses the ability to extend the tongue properly, hence presenting with a functional "tongue-tie." Other muscles (styloglossus, mylohyoid, and palatoglossus) contribute to retraction, floor support, or elevation but are less crucial for protrusion.

7. (a) TSH levels

The most sensitive screening test for primary hypothyroidism is serum TSH measurement. Even small drops in circulating T_4 will trigger a rise in TSH (due to negative feedback at the pituitary). T_3 and T_4 can become abnormal later, making TSH the earliest indicator. TRH levels are not routinely used in clinical testing, and radioactive iodine uptake helps in certain differential diagnoses but is not the most sensitive for hypothyroidism.

8. (d) Radical Mastectomy is the treatment of choice

brachial plexus (C8–T1), thereby often causing symptoms in the ulnar hand distribution rather than the radial nerve distribution. Physiotherapy, posture correction, and occasionally surgical resection of the first rib can be curative. Neurological complaints (e.g., numbness, weakness) and vascular issues in the upper limb are indeed common. Thus, stating that the radial nerve is involved is not correct.

41. (d) Increase in mean arterial pressure

During normal pregnancy, there is a marked increase in cardiac output and heart rate, accompanied by a decrease in systemic vascular resistance (due to vasodilatory factors, e.g., progesterone effects). Mean arterial pressure typically stays the same or can slightly decline in mid-pregnancy before returning toward baseline later. Therefore, stating there is an increase in mean arterial pressure is the exception.

42. (c) During labour

Mother-to-child transmission of HIV can occur in utero, intrapartum, or via breastfeeding. The greatest risk occurs around the time of delivery (labour) when the baby is exposed to maternal blood and secretions. Adequate antiretroviral therapy, elective cesarean (in certain cases), and avoiding breastfeeding can dramatically reduce this transmission risk. While transmission may still happen in the third trimester or through breast milk, intrapartum remains the highest single-period risk.

43. (b) Associated with markedly high bilirubin and raised liver enzymes

Intrahepatic cholestasis of pregnancy typically presents with intense pruritus (often on palms/soles) and mild-to-moderate elevations in bile acids and liver enzymes. Markedly high bilirubin is not the usual feature; bilirubin tends to be normal or only mildly raised. Patients are often managed with ursodeoxycholic acid and close monitoring, and many obstetric units consider delivery around 37 weeks. Recurrence in later pregnancies is common.

44. (b) Variability in fetal heart rate pattern

While very high maternal magnesium levels can cause neonatal respiratory depression, the most frequently noted fetal effect is a reduction in baseline variability in the fetal heart tracing. This sedation-like effect on the fetus can manifest as diminished short-term FHR variability. The link to cerebral palsy or intestinal obstruction is tangential, and major respiratory depression of the neonate is more often an issue if magnesium toxicity is uncontrolled.

45. (c) Gestational sac is connected with infundibulopelvic ligament

Ovarian pregnancy (rare form of ectopic) is diagnosed if: (1) The tube is intact and separate, (2) The gestational sac is within or on the ovary, (3) Ovarian tissue is histologically confirmed in the sac wall, and (4) The sac replaces normal ovarian tissue. Being connected specifically to the infundibulopelvic ligament is not part of Spiegelberg's official criteria, so that option is the exception.

46. (a) 1 and 2

First-trimester screening for Down syndrome typically combines an ultrasound measurement of nuchal translucency and biochemical measurement of PAPP-A plus free beta-hCG. Inhibin A is typically part of the second-trimester "quad screen," and a glucose tolerance test (GTT) is for gestational diabetes screening, not Down syndrome risk.

47. (b) Hemodilution

Pre-eclampsia is associated with hemoconcentration (reduced plasma volume expansion), hypercoagulability (e.g., decreased antithrombin III), thrombocytopenia, and elevated uric acid levels due to reduced renal clearance. "Hemodilution" is more characteristic of normal pregnancy, not pre-eclampsia. Hence (b) is the change typically not seen in pre-eclampsia.

48. (c) Triploid

Partial molar pregnancies usually arise from fertilization of a normal egg by two sperm, resulting in a triploid set of chromosomes (often 69 XXY). In contrast, complete moles typically

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risk of venous thromboembolism, so they do not protect against it.

67. (b) It increases the risk of ectopic pregnancy

Levonorgestrel-IUD overall lowers the absolute risk of pregnancy, including ectopics. If pregnancy does occur with an IUD in situ, a higher proportion of those pregnancies may be ectopic, but the total or absolute risk of ectopic is decreased compared to using no contraception. Mirena also can cause functional ovarian cysts and reduces PID risk. It releases 20 μg/day of levonorgestrel.

68. (c) Mini Pill

During lactation, high-dose estrogen (as in a combined pill) can reduce milk supply. Hence, the progestin-only pill (the "mini pill") is recommended for breastfeeding mothers to avoid impacting lactation. Other formulations like multiphasic pills or centchroman are less commonly used for standard postpartum contraception.

69. (b) 24–36 hours

Ovulation typically occurs about 24–36 hours after the onset of the LH surge (or 36 hours after the initial rise). This timing is crucial in fertility assessments and in predicting the fertile window. The length of time ensures follicular rupture and release of the oocyte.

70. (c) Levonorgestrel only pill

Modern guidelines recommend levonorgestrel (1.5 mg single dose) as the preferred agent for emergency contraception. It is more effective and has fewer side effects compared to the older Yuzpe regimen (combined pills). High-dose estrogen alone is rarely used due to side effects, and danazol is not standard for EC.

71. (a) Levonorgestrel

Levonorgestrel is typically classified as a second-generation progestin. The third-generation progestins (e.g., desogestrel, gestodene, norgestimate) were developed later, often with a profile aiming at fewer androgenic side effects.

72. (d) Taken for 28 days with no pill free interval

The progestin-only pill (including desogestrel 75 μg "minipill") is given continuously every day, without any hormone-free break. This contrasts with some combined pills (21/7 or 24/4 regimens). Progestin-only regimens maintain consistent low-dose hormone levels.

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73. (d) Failure to identify and repair enterocele

Vault prolapse after hysterectomy typically occurs if the apical support of the vagina is inadequate, especially when enterocele (herniation of small bowel/ peritoneum into the rectouterine pouch) is missed or not repaired. Chronic cough, obesity, or diabetes can contribute to pelvic support problems, but the most common direct reason is failure to correctly suspend or repair the vault and associated support defects (enterocele).

74. (c) Date of ovulation

Natural "safe period" or rhythm methods rely on estimating the woman's likely ovulation day, and then abstaining (or using protection) during the fertile window around that ovulation. While cycle length can give approximate guidelines, the crux is identifying or predicting ovulation so as to gauge which days are "safe."

75. (d) Progesterone containing IUCD

For women with heavy menstrual bleeding (menorrhagia), a levonorgestrel-releasing or progesterone-containing IUCD (e.g., Mirena) is preferred because it significantly reduces endometrial proliferation and monthly blood loss. Copper IUCDs, in contrast, can increase menstrual flow.

76. (a) Protection against 1, 2 and 3

Combined oral contraceptive pills provide documented protective effects against ovarian, endometrial, and colorectal cancers. The reduced lifetime exposure to unopposed estrogen and lowered gonadotropin levels appear to be the mechanism behind ovarian and endometrial protection. By contrast, there may be a small increased risk of breast cancer with prolonged COC use, but the net effect for the three listed tumors—ovarian, colon, and endometrial—is decreased risk.

2. Absence of secondary trophoblastic invasion → Vasospasm & PIH (3) due to inadequate remodeling of spiral arteries.
3. Thinning of cytotrophoblasts → Increased exchange of nutrients (1) (thinner barrier).
4. Future of body stalk → Umbilical cord (4).

Hence the code A-2 B-3 C-1 D-4 fits best.

59. (a) Ovarian carcinoma

PCOS is well known to involve insulin resistance (leading to impaired glucose tolerance) and dyslipidemia; the long-standing anovulation with unopposed estrogen predisposes to endometrial hyperplasia and carcinoma. However, ovarian cancer risk is not characteristically increased in PCOS (endometrial pathology is the main concern). Therefore, ovarian carcinoma is the "except" in the list.

60. (d) A-2 B-1 C-4 D-3

1. Androgen Insensitivity: 46 XY, external female appearance, absent uterus → 2
2 Mayer-Rokitansky-Kuster-Hauser: Mullerian agenesis, typically 46 XX → 1
3. Swyer's syndrome (Pure gonadal dysgenesis): 46 XY but with streak gonads; patent Müllerian system → 4
4. Kallman's syndrome: Hypogonadotropic hypogonadism + anosmia → 3

Hence the correct code is 2 1 4 3.

61. (a) A-2 B-3 C-4 D-1

1. Simple hyperplasia often requires progestins (2) for regression.
2. Ovulatory menorrhagia is frequently managed with OCPs (3) to control and regularize the cycle.
3. Puberty menorrhagia (often mild, anovulatory) may be primarily addressed with iron supplementation (4) if anemic, alongside reassurance if bleeding is not severe.
4. Irregular shedding from minor hormonal imbalances may respond to watchful waiting/reassurance (1) when mild.

62. (c) Polyvinyl alcohol

Uterine artery embolization involves injection of embolic particles to occlude branches supplying uterine fibroids. Commonly used materials include polyvinyl alcohol (PVA) particles, calibrated microspheres, or gelfoam. Polyglactin, ethacridine lactate, and methylene blue are not standard choices for fibroid embolization.

63. (d) Classical caesarean section followed by radio-therapy

In advanced cervical carcinoma (stage IIB) during later pregnancy (≥32 weeks), definitive treatment (chemoradiation or radical surgery) is crucial for maternal prognosis. If the pregnancy is sufficiently advanced, a classical Cesarean section (rather than lower segment) is often done to avoid incising the diseased cervix and to deliver the fetus. Definitive radiotherapy (and/or concurrent chemotherapy) is then commenced postpartum.

64. (c) Small cell non-keratinizing

Among squamous carcinomas of the cervix, the small cell (non-keratinizing) variant (often a neuroendocrine type) is known for its high aggressiveness and poorer prognosis compared to large cell variants. Keratinizing subtypes tend to be somewhat less aggressive.

65. (c) Inhibition of ovulation

The levonorgestrel-releasing IUD (e.g., Mirena) mainly acts locally by thickening cervical mucus and causing endometrial suppression, which reduces menstrual blood loss and often leads to amenorrhea in many users. It also helps reduce dysmenorrhea from conditions like adenomyosis or endometriosis. However, it does not reliably inhibit ovulation in most cycles; the local effect on the uterine environment is the key.

66. (d) Venous thromboembolism

Combined oral contraceptives can reduce menstrual bleeding (thus helping menorrhagia) and appear to lower incidence of benign breast disease (fibrocystic changes). They also thicken cervical mucus and may provide some protection against upper genital tract infection (mildly reducing PID risk). However, they increase the

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Hence, 1 (Cholesterosis), 2 (Adenomyomatosis), and 3 (Polyposis) are correctly included.

16. (a) Early surgery

In diabetic patients, gallstones carry a higher risk of acute cholecystitis and complications; a stone larger than 3 cm further raises concern for gallbladder disease progression. Because diabetics can have attenuated or atypical symptoms and a higher morbidity with complicated gallbladder pathology, elective (early) cholecystectomy is usually recommended even when the stone is asymptomatic. Medical dissolution (bile salts) is slow and less reliable, and lithotripsy (ESWL) is not standard for gallbladder stones.

17. (c) 1, 2 and 3

In classical scoring (e.g., Ranson's criteria), an increase in BUN (≥5 mg/dL), hematocrit fall (>10%), and a significant base deficit (>4 mEq/L) are important 48-hour markers of severity in acute pancreatitis. Blood glucose elevation is typically assessed on admission if it exceeds about 11 mmol/L (≈200 mg/dL). Therefore, parameters 1, 2, and 3 match the recognized 48-hour prognostic factors, whereas 4 relates more to early (admission) criteria rather than progression.

18. (a) Acute fluid collection

Sterile "acute fluid collections" are often managed conservatively unless they become infected or cause significant pressure symptoms. Pancreatic necrosis frequently warrants drainage or debridement if infected. A pancreatic abscess (walled-off infected collection) requires drainage to control sepsis. A diagnostic dilemma (e.g., persistent unclear cause or suspicion of other pathology) may also prompt surgical exploration. Hence a simple, uncomplicated acute peripancreatic fluid collection is not by itself an indication for surgery.

19. (d) Peutz-Jeghers syndrome

Ulcerative colitis, villous adenomas, and familial adenomatous polyposis (FAP) are established high-risk settings for developing colon carcinoma. Peutz-Jeghers syndrome (hamartomatous polyps) does confer some increased risk for various gastrointestinal malignancies, including small bowel and also colon, but it is classically less associated with the high-grade adenomatous changes that strongly predispose to colon cancer. In many standard lists, Peutz-Jeghers is less prominently cited as a major colon cancer risk factor compared with the other three.

20. (a) Axillary and inguinal

Superficial lymphatic drainage at the level of the umbilicus follows a "watershed" pattern. Generally, tissue above the umbilicus drains to the axillary lymph nodes, while tissue below it drains to the superficial inguinal lymph nodes. Hence, both sets—axillary and inguinal—are involved in umbilical area drainage. The deeper iliac or para-aortic nodes typically receive lymph from deeper pelvic or abdominal structures.

21. (a) Subphrenic

Intraperitoneal abscesses often localize in "dependent" or "relatively uncleaned" recesses. The right subphrenic or subhepatic space (Morison's pouch) is famously the most common site of collection after gastrointestinal perforations or generalized peritonitis. Pelvic abscesses, paracolic gutters, and interloop areas are also possible but occur somewhat less frequently. The subphrenic space is large, and fluid can easily migrate there, making it a common location for postoperative or postinflammatory collections.

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22. (d) Second dehiscence is very common

Wound dehiscence ("burst abdomen") typically presents about 1–2 weeks postoperatively, often between day 6 and day 8. Immediate management includes stabilizing the patient (IV fluids, NG tube if needed) and urgent surgical closure (with sterile coverage of the open wound before the return to the operating room). Second dehiscence (recurrent breakdown after a proper repair) is uncommon if the closure is done carefully and infection is managed. Hence, "Second dehiscence is very common" is incorrect.

23. (a) Plain X-ray abdomen (Erect)

77. (c) 20 μg

Combined oral contraceptives are often categorized by the amount of ethinyl estradiol they contain. Formulations with 20 μg (or sometimes ≤20 μg) are usually referred to as "very low dose." Standard low-dose pills may contain around 30–35 μg. A reduction in estrogen content often means fewer estrogen-related side effects, yet maintaining contraceptive efficacy if taken properly.

78. (a) Fallop ring occlusion

When considering future reversibility, a method that minimizes damage to the fallopian tube is crucial. The Fallop ring (or "silastic band") technique typically involves less destruction of the tubal lumen and segment, thereby offering the best subsequent success rates for recanalization compared to other techniques like Pomeroy ligation or electrocoagulation. This is why ring occlusion is favored in those who may desire a tubal reversal in the future.

79. (c) Microcytes

Folic acid deficiency leads to megaloblastic anemia, featuring macrocytic RBCs (larger-than-normal size). Peripheral smears may also show hypersegmented (not "hyperpigmented") neutrophils, though the question wording presumably points to that morphological change. Howell-Jolly bodies (nuclear remnants) can appear when RBCs are released prematurely or if the spleen is overwhelmed. Microcytosis, however, is more typical of iron deficiency or thalassemia, making "microcytes" the incorrect feature for folic deficiency.

80. (c) Rubella

Live attenuated vaccines like rubella (part of MMR) are contraindicated during pregnancy due to theoretical risks to the fetus. By contrast, inactivated or toxoid vaccines—such as tetanus toxoid, inactivated influenza, and (if indicated) pneumococcal vaccine—can generally be administered safely during pregnancy. Rubella vaccination is recommended pre-pregnancy or postpartum if immunity is lacking.

81. (a) True negative result

Specificity is the ability of a test to correctly identify true negatives among those who do not have the disease. A 90% specificity means that out of every 100 healthy (non-diseased) people, 90 will test negative (true negative) and 10 will be incorrectly labeled as positive (false positive). Specificity = TN / (TN + FP).

82. (b) Hospital based studies

Berksonian bias arises when the sample of participants is selected specifically from a hospitalized population, which may not represent the general community. This can lead to distorted associations between exposure and outcome. Hospitalized patients often have multiple comorbidities or different healthcare-seeking behaviors, thus introducing systematic differences relative to the community.

83. (c) Serial interval

The serial interval (also called "interval of time between onset of symptoms in the primary case and onset in the secondary case") is used in infectious disease epidemiology to understand transmission dynamics. "Generation time" often refers to the interval between infection in the primary case and infection in the secondary. The latent period and communicable period have different definitions.

84. (a) Human

Human breast milk generally has lower levels of calcium compared to typical concentrations in cow, buffalo, or goat milk. Animal milks tend to have higher total mineral and protein content, reflecting the faster growth patterns of their offspring. While human milk is optimal for human infants due to its special composition of proteins, fats, immunological factors, and bioavailability, its absolute calcium content is indeed lower.

85. (c) Ripe Mango

Although both ripe mango and papaya are rich in carotenoids (pro-vitamin A), standard references typically note that ripe mango ranks slightly higher for vitamin A (retinol) equivalents among these options. Orange and

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2. Effectiveness: How well it works in actual practice or real-world conditions.
3. Efficiency: Compares results to the resources spent (cost vs outcome).
4. Impact: Broader overall effect on the community or population.

Thus "the degree to which an intervention achieves its objectives in real-life settings" = effectiveness.

106. (b) Primary school children

The Integrated Child Development Services (ICDS) covers children 0–6 years of age, pregnant women, lactating mothers, and adolescent girls (in certain expansions). It does not routinely include older primary school children (above age 6) under its usual supplementary nutrition or early child development program.

107. (c) Malaria, Filaria, TB, Anemia

1. National Malaria Control Program: 1953
2. National Filaria Control Program: 1955
3. National Tuberculosis Program: 1962
4. National Nutritional Anemia Prophylaxis: 1970

Hence the chronological order is Malaria → Filaria → TB → Anemia.

108. (d) Scatter diagram

A scatter diagram (scatter plot) is used for displaying the relationship (correlation) between two continuous variables—for instance, height and weight. Bar diagrams typically show discrete or categorical data, histograms show frequency distributions of a single continuous variable, and pictograms are more for simple visual representation.

109. (b) 68.3%

In a standard normal (Gaussian) distribution:

1. 68% of values lie within ±1 SD of the mean
2. 95% within ±2 SD
3. 99.7% within ±3 SD.

Hence the correct figure for ±1 SD is 68.3%.

110. (c) Histograms

Histograms show the frequency distribution of a continuous variable, with adjacent bars reflecting intervals along the x-axis. Bar diagrams typically are for categorical (discrete) data, pie charts for relative proportions of categories, and pictograms are more illustrative but not the usual method for continuous variables.

111. (b) Sample Registration System

The Sample Registration System (SRS) in India involves dual recording of births and deaths: a continuous enumeration by a local enumerator, and an independent six-monthly retrospective survey by a supervisor. The results are matched to produce more reliable vital statistics. This is distinct from the decennial census or specialized health surveys.

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112. (a) Pyrethrum

Residual insecticides are sprayed on surfaces so that they retain killing power for weeks/months (e.g., DDT, BHC, malathion). Pyrethrum (natural pyrethrins) is commonly used as a space spray and has a short residual action, so it is not generally a long-acting residual insecticide.

113. (d) Changes in occurrence over long period of time

A secular trend means a persistent, long-term pattern in disease incidence or prevalence across several years or decades. It does not simply refer to short-term or seasonal changes, nor variations by religion or social strata.

114. (d) Germany

Germany under Chancellor Otto von Bismarck introduced the first national, compulsory health insurance (the Sickness Insurance Law of 1883). This became the prototype for many later social insurance schemes in Europe and elsewhere.

115. (d) It has four volumes

ICD-10 has three main volumes: Volume 1 (Tabular list), Volume 2 (Instruction manual), and Volume 3 (Alphabetical index). It contains 21 major chapters, with each main category typically having three characters plus a potential decimal and fourth character. The first character is indeed an alphabet (A–Z). Hence claiming "four volumes" is incorrect.

116. (c) Coconut oil

In tuberculoid leprosy, the patient has strong cell-mediated immunity to Mycobacterium leprae, so the lepromin test (an intradermal test) usually becomes strongly positive. In lepromatous leprosy it is typically negative. The test can be influenced by prior BCG vaccination. It is a prognostic or immunologic test, not used definitively for diagnosis. Typically, reading for the Mitsuda reaction occurs at 3–4 weeks, not within 24 hours.

96. (c) Secondary prevention

Secondary prevention involves the early detection and intervention to prevent progression or complications of a disease. Amniocentesis diagnoses fetal genetic disorders in utero, allowing possible decisions (e.g., therapeutic termination) that prevent the birth of a severely affected child. Primary prevention would be avoiding the disease's occurrence in the first place; tertiary is limiting disability after the fact; primordial is preventing risk factors themselves.

97. (c) Introduction of gene sequence into a cell

"Gene therapy" refers specifically to delivering or introducing genetic material (often a functioning gene) into a patient's cells to correct or compensate for a defective gene. Synthesis of DNA probes, mapping, and PCR are important laboratory techniques for diagnosis or analysis of DNA but do not by themselves constitute therapy.

98. (c) Blood group O 40%; Rh negative 7%

In the Indian population, group O is the most common (40%) and about 5–8% are Rh negative. AB 20% is much too high (actual AB is often 5%), and 99% Rh positivity is also incorrect for Indians. Hence (c) best matches the typical blood-group distribution.

99. (b) Hardy-Weinberg Law

The Hardy–Weinberg principle asserts that allele and genotype frequencies remain stable in a population from generation to generation if certain assumptions (random mating, no mutation, large population size, etc.) are met. It is the foundation of population genetics.

100. (d) 1, 2 and 3

Under the Consumer Protection Act, major consumer rights include: Right to be informed, Right to choose, Right to be heard, Right to seek redressal, Right to safety, and Right to consumer education. Hence all three listed (to be informed, to choose, and to seek redressal) are indeed covered.

101. (c) Glaucoma

Globally, cataract is the leading cause of preventable blindness; next in line is generally glaucoma. Diabetic retinopathy, corneal opacities, and trachoma are also significant but rank lower overall than glaucoma in worldwide prevalence for blindness.

102. (c) Both 1 and 2

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Thiamine (vitamin B_1) deficiency blocks the oxidative decarboxylation of pyruvate (and other ketoacids), causing an accumulation of pyruvic and lactic acids. Riboflavin (vitamin B_2) is needed for the activation of vitamin B_6 (pyridoxine); deficiency in riboflavin can impair normal pyridoxine utilization.

103. (a) Sensitivity

A test's sensitivity = the probability that the test is positive given that the person actually has the disease = True Positives / (True Positives + False Negatives). It measures how good the test is at picking up people who truly have the condition.

104. (c) Cost effective analysis

In health economics, cost-effectiveness analysis compares the monetary costs to natural health outcomes (e.g., years of life saved). Cost-benefit converts both costs and benefits into monetary terms. Cost-utility involves outcomes measured in utilities like quality-adjusted life years (QALYs). Hence simply comparing "results" (e.g. lives saved) to cost is cost-effectiveness analysis.

105. (b) Effectiveness

1. Efficacy: How well an intervention works under ideal, controlled conditions.

tomato are good sources of vitamin C, with only moderate amounts of vitamin A activity. Ripe mango is commonly cited in nutrition texts as a particularly rich fruit source of beta-carotene.

86. (b) Severe dysmenorrhea

Active pelvic or uterine infections (e.g., puerperal sepsis, tuberculosis of the pelvis) and uterine/ endometrial malignancy are standard absolute contraindications to IUD insertion. Severe dysmenorrhea can be a relative contraindication or caution but not absolute; in some cases, a levonorgestrel-releasing device may even help reduce dysmenorrhea.

87. (a) below 1%

The Aedes aegypti house (or container) index refers to the proportion of water-holding containers infested with larvae/pupae. For yellow fever (and dengue) control, maintaining this index below 1% drastically reduces the risk of major transmission. International Health Regulations emphasize stringent vector control to remain below this threshold.

88. (d) Hypochlorous acid and hypochlorite ions

When chlorine dissolves in water, it forms a mixture of hypochlorous acid (HOCl) and hypochlorite ions (OCl^-). These species are powerful oxidizing and germicidal agents that disrupt microbial membranes and enzymes, providing the basis for chlorination's disinfecting action. Hydrochloric acid is not the main reactive disinfectant.

89. (b) Low air velocities

A kata thermometer measures the "cooling power" of air at low velocities, essentially quantifying how quickly the bulb cools by evaporation/ convection. It's specialized for assessing ventilation or air movement in environmental studies. It does not measure ambient maxima/ minima, humidity, or radiant heat.

90. (d) A-3 B-1 C-2 D-4

1. Anthrax is associated with sheep/cattle (3).
2. Leptospirosis often involves rats (1) as a reservoir host.
3. Yellow fever has a sylvatic cycle primarily in monkeys (2).
4. Japanese encephalitis is often amplified in pigs (4).

Hence the code 3 1 2 4.

91. (d) 1, 2 and 3

Japanese Encephalitis control includes: reducing vector breeding sites (land filling, drainage), vaccinating pigs (key amplifying hosts) in endemic settings, and immunizing children (JE vaccine) in high-risk areas. Additional vector control (mosquito nets, insecticides) complements these measures. Thus, all three listed measures are utilized.

92. (c) 1

Annual Parasite Incidence (API) = (Number of confirmed malaria cases in 1 year ÷ total population) × 1000. Here, 100 positives in a population of 100,000 → (100 ÷ 100,000) × 1000 = 1. Hence the API is 1. The number of slides examined does not directly factor into the final index, only the confirmed positives and total population.

93. (d) Extrinsic incubation period

For malaria parasites (Plasmodium spp.), the extrinsic incubation period is the time from ingestion of gametocytes by the mosquito to development of infective sporozoites in the salivary glands (≈10–20 days, depending on species and temperature). This is distinct from the parasite's asexual (schizogony) or erythrocytic cycles, which occur in the human host.

94. (c) It is easily killed by heat

HIV is relatively fragile outside the body: it is inactivated by standard disinfectants (e.g., bleach, alcohol) and moderate heat. It can cross the blood-brain barrier in infected cells (macrophages), so (a) is false. "Resistant to acetone" is not a standard trait; also T-helper cells do not "kill" HIV—rather, the virus infects and can destroy them.

95. (a) Lepromin test is strongly positive in tuberculoid leprosy

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Coconut oil is known to have one of the highest percentages of saturated fats (90%). Palm oil also contains a high amount of saturated fat but generally less than coconut oil. Butter and margarine (depending on type) have mixes of saturated and unsaturated fats, though coconut oil remains notably high among commonly consumed oils.

117. (c) Louis Pasteur

While Robert Koch formulated his famous postulates for specific pathogens, it was Louis Pasteur who vigorously demonstrated and championed the germ theory—that many diseases are caused by microorganisms. Hippocrates predated modern microbiology, and August Weismann is known for other genetic concepts.

118. (a) Population bed ratio

A utilization rate measures how intensively a health service (e.g., hospital beds) is used—like bed occupancy rate, bed turnover, or average length of stay. By contrast, population bed ratio (e.g., number of beds per 1,000 population) indicates resource availability, not actual utilization.

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119. (b) Proportion of clinical cases resulting in severe clinical manifestation

Virulence is about the severity or the degree of pathogenicity of an organism, often quantified by the fraction of clinical infections that become severe, complicated, or fatal. "Infectivity" is the ability to invade and multiply, "pathogenicity" is the ability to cause clinical disease, and "immunogenicity" is the ability to elicit an immune response.

120. (a) Health Promotion

Encouraging healthy lifestyles (physical activity, healthy diet, smoking cessation, stress management) is a prime example of Health Promotion. It aims to enhance overall well-being and reduce disease risk by modifying behavior and environment. "Specific protection" typically involves immunization or prophylactic measures, "disability limitation" occurs after disease onset, and "rehabilitation" is restoring function after disease or injury.

END

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